THE AMERICAN ROSE ANNUAL

1927

THE AMERICAN ROSE SOCIETY

The American Rose Society

Committee of Consulting Rosarians

TO the best of their ability, the rosarians named below will answer questions from members of the American Rose Society in regard to roses and rose matters.

In the interest of convenience and brevity, inquiries should be made on paper large enough to allow space for reply below each question.

Questions should be sent to the nearest member of the Committee.

There is no charge for this service, but the inquirer is expected to enclose a self-addressed stamped envelope, and to state that he or she is a paid-up member of the American Rose Society.

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THE AMERICAN ROSE ANNUAL

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PLATE I.
BREEZE HILL, the new climbing rose originated by Dr. Van Fleet, now being introduced by the American Rose Society
(See page 213)

THE AMERICAN ROSE ANNUAL

THE 1927 YEAR-BOOK OF ROSE PROGRESS

EDITED FOR THE AMERICAN ROSE SOCIETY BY

J. HORACE McFARLAND, L.H.D.

1927
AMERICAN ROSE SOCIETY
EDITOR'S OFFICE
HARRISBURG, PA.

THE AMERICAN ROSE ANNUAL is sent to paid-up members of The American Rose Society, who may also purchase extra copies of the current issue for $2 each. The Index to the first 10 volumes may be had for 10 cts.; and back issues may be had from the Secretary at $3 to $5 each as long as they are in print.

The MEMBERS' HANDBOOK is sent when published to all paid-up members, following the Annual. It contains lists of members to April 1, dates of meetings and shows, and other important announcements.

ROBERT PYLE, *Secretary*

West Grove, Pa.

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By J. HORACE MCFARLAND, Editor

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The President's Greeting

LOOKING toward the 25,000 membership the American Rose Society may properly hope for, I take new courage, not only from the generous helpfulness of my member-associates, but from the interest shown by the press of America. The growing recognition of the value of the rose in human living encourages us all to respond yet more fully to calls for guidance and help.

If our members will always take with them the Annual and the Handbook when on tour, whether by rail, water or motor, these will be found everywhere to serve as introductions to gardens and to those who love them and work in them.

Everywhere are public buildings, churches, school and college surroundings, railroad stations, etc., just calling for the grace and beauty that the rose can best give. What a transformation a few climbing roses can make!

In more than a half-century of rose work and rose association, I have seen hundreds of splendid new roses, given us by loving, patient hybridists. The time seems now ripe for a race of American-raised hardy, everblooming roses.

My rose pilgrimages in 1926 were days of delight. Rose Sundays, Rose Festivals, Rose Shows, even Rose Schools, we have had. The new year may well see many more of these auspicious events.

Riches cannot buy health and happiness, it is said. But only a little portion of great money-wealth is required to buy and place garden roses where they will promote the health and happiness of many. America should have a thousand new public rose gardens started in 1927.

Love for the rose is never wasted. Memory of its beauty, color and fragrance never dies. With love and care a rose will grow anywhere where these essentials are used with a little soil and a little sunshine.

Frederick L. Atkins

THE AMERICAN ROSE SOCIETY

ORGANIZED MARCH 13, 1899
INCORPORATED JULY 7, 1921

"To increase the general interest in the cultivation and improve the standard of excellence of the Rose for all people"

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EDITOR'S PREFACE

THIS twelfth American Rose Annual is issued to the widespread membership of the American Rose Society with confidence and gratitude. The helpfulness with which rose information, questions, theories, experiences, come from all the rose world warrants confidence in the value of the resulting volume. There can be only gratitude for this response and for the growth and spirit of the great rose fraternity it represents. From a membership of 286 in 1915, almost entirely in a few eastern states, the Society has advanced to 4,963 in 1926, distributed in every state and province of America's two-nation spread, and as well touching twenty-eight nations foreign only in geographic boundaries, but all united under the gentle rule of the Queen of Flowers.

That this fraternity is happy in its rose relations is indicated by the fact that fully 81 per cent of the 1925 membership continued in 1926, as well as by the growing interest in rose endeavor made evident in correspondence, pilgrimages, and general intercourse. From this interested group come valuable suggestions which the Editor heartily wishes it were possible always immediately to work upon. With both Secretary and Editor gladly serving without compensation, with more than two-thirds of the membership fees returned to members in the publications of the Society at their cost of manufacture and postage only, there is not much left for advance.

The present volume has been compiled upon a definite plan. The first ten articles either open new avenues of rose interest or widen those already open. The rose-breeding symposium is designed to give reasons and methods for intelligent advance in the fascinating work of making new and better roses.

Last year's careful survey of rose-growing in Florida is followed by an even more careful study of the way in which good roses are grown in the northeast corner of this rose-hungry land. Five acute articles discuss rose details, including the survey in "The Proof of the Pudding," which is continued because continuance has been demanded. Experiences and

tendencies in the rose world follow in the articles of several able correspondents.

No apology is made for the elaborate study presented, with illuminating illustrations, of the mean "brown canker" disease of the rose, because the easy recognition and the definite control thus made possible ought to remove the menace of that disease.

Really extraordinary was the response to the inquiry so ably conducted by the Secretary as to rose preferences in America. His report in "The Favored Roses of America" is of the greatest interest and value. New points of view upon cut-flower roses are given, and other items of definite rose interest follow. Scores of interesting and worth-while rose notes are crowded out by the pound-postage limitation of the volume.

The Editor again asks attention to the enclosed inquiry card, prompt responses on which will help to guide the next Annual toward greater usefulness. It is, indeed, as has been repeatedly stated, the response from the members which makes each Annual, in the opinion of many, better than any of its predecessors, and so it should be when more rose-lovers know more about roses and tell more about them.

Without the acute, alert, and able assistance of his associate, Mr. G. A. Stevens, this Annual could hardly be what it is, just as it would be out of the question to keep on with this work did not the business corporation which houses it continue to cast a kindly eye upon the situation.

It is a strong desire of the Editor to see that members of the American Rose Society are not only provided with information upon which they may purchase roses and rose needs, but that they are protected from imposition. Careful scrutiny is exercised of the list of advertisers admitted, and it is not at all unfair to suggest that the claims of any rose merchant not represented in the advertising pages, which are open to all responsible and worthy concerns, merit close investigation.

Harrisburg, Pa.,
February 21, 1927.

J. HORACE McFARLAND

CONTENTS

		Page
WHY DO YOU LIKE ROSES?	*B. Y. Morrison*	9
FAVORITE MOSS ROSES	*Jesse A. Currey*	15
TEA ROSES FOR SOUTHERN CLIMATES	*Capt. George C. Thomas, Jr.*	18
THE LAND OF ENCHANTMENT	*Edmund M. Mills, D.D.*	21
INTERESTING BOYS AND GIRLS IN ROSES	*The Editor*	27
A BEGINNER'S EXPERIENCES	*Dwight L. Armstrong*	29
EAST AND WEST BEGINNINGS AND EXPERIENCES	*John F. Mahneke*	32
OWN-ROOT ROSES AGAIN	*G. A. Stevens*	35
BUYING ROSES FROM TRAVELING AGENTS	*An Editorial Report*	42
WHY WE STOPPED SELLING ROSES IN SPRING	*George H. Peterson*	45
ROSE UNDERSTOCKS AT ARLINGTON FARM	*Guy E. Yerkes*	47
ROSE-BREEDING IN THEORY AND PRACTICE	*A Symposium*	53
Chromosomes and Their Relation to Rose Problems	*Kathleen B. Blackburn*	54
Mendelian Principles and Rose Hybridization	*J. H. Nicolas*	59
Artificial Fertilization	*J. Pernet-Ducher*	63
Parents and Offspring	*Capt. George C. Thomas, Jr.*	66
Handling Seeds and Seedlings	*Allan C. Fraser*	69
Roses and Their Hybridization in Spain	*Pedro Dot*	71
Hybridizing from a Woman's Viewpoint	*Rena E. Wilber*	73
A Poor Start Makes Poor Roses	*W. L. Bredero*	75
THE NORTHEAST CORNER	*A Double Symposium*	77
ROSES IN NEW ENGLAND—		
I. Roses in Maine	*Dr. George T. Elliot*	78
II. New Hampshire Roses	*Dr. Joseph Boylston*	80
III. Green Mountain Roses	*Edna V. Higley*	81
IV. Roses in Vermont	*R. R. Campbell*	83
V. Practical Methods	*Mrs. A. H. Parker*	86
VI. Along the New England Seaboard	*John Barrow*	89
VII. Rhode Island Roses	*R. Marion Hatton*	90
VIII. Roses and Heresies in Connecticut	*Alexander Cummings, Jr.*	93
ROSES IN NEW YORK AND ONTARIO—		
I. Simplified Rose Culture on Long Island	*Mrs. Tracy H. Lewis*	97
II. Planting and Feeding Roses	*A. Schierenberg*	98
III. Roses in Central New York	*Dr. G. Griffin Lewis*	99
IV. Amateur Rose-growing in Rochester	*Paul and Elsie Seel*	103
V. A Home Rose-Garden in Ithaca	*E. A. White*	106
VI. A Buffalo Backyard Rose-Garden	*Oscar S. Witte*	111
VII. Rose Varieties in Ontario	*Paul B. Sanders*	112
THOMAS, PEMBERTON, AND LAMBERT ROSES	*Whitman Cross*	116

		Page
COLOR STANDARDIZATION FOR ROSES	*H. S. Tillotson*	119
CONSIDERING NEW VARIETIES	*Capt. George C. Thomas, Jr.*	121
PATIENCE FOR THE NEW ROSES	*G. F. Middleton*	125
THE PROOF OF THE PUDDING—AGAIN	*Opinions of Members*	127
A GENTLEMAN DISCUSSES BLONDES	*Geoffrey G. Whitney*	147
ROSES IN CHINA	*M. Leslie Hancock*	150
FIVE YEARS OF ROSE PROGRESS IN AUSTRALIA	*H. H. Hazlewood*	153
ROSES AT A NAVAL BASE	*G. Prideaux*	157
BROWN CANKER OF THE ROSE	*Anna E. Jenkins*	161
AS THE RETAIL FLORIST SEES ROSES	*Max Schling*	183
THE CUT-ROSE SITUATION IN NEW YORK	*E. L. D. Seymour and Frank H. Traendly*	187
CONVERSATION WITH A ROSE BEGINNER	*Editorial*	192
A ROSE SCHOOL IN TEXAS	*Letters to the Editor*	194
THE FAVORED ROSES OF AMERICA	*Robert Pyle*	196
ROYAL DOINGS IN TACOMA	*James A. Hays*	200
WHAT ABOUT THE NEW EUROPEAN ROSES?	*Correspondence*	201
TWO NEW VAN FLEET HYBRIDS	*Editorial*	213
NEW ROSES OF THE WORLD	*An Editorial Survey*	214
ROSES REGISTERED	*Official*	228
ROSE NOTES	*Correspondence*	229

LIST OF PLATES

		Facing Page
I.	Breeze Hill (New climbing rose) *Colored Frontispiece*	
II.	Types of Old-fashioned Roses	12
III.	Types of Old-fashioned Roses	13
IV.	Capt. George C. Thomas, Jr	20
V.	California Roses and Rosarians	21
VI.	One-year Own-root Roses	40
VII.	J. A. Kemp and His Rose, Junior Van Fleet	41
VIII.	Alexander Montgomery (See also page 229)	56
IX.	Queen Marie and the Fall Rose Show at Tacoma	57
X.	Souvenir de Georges Pernet (*In color*)	136
XI.	Aspects of Brown Canker (*In color*)	161
XII–XIX.	Various Aspects of Brown Canker	Facing pages 172, 173, 176, 177, 180, and 181

Why Do You Like Roses?

By B. Y. MORRISON, Takoma Park, Md.

EDITOR'S NOTE.—The suggestions made as well as the questions asked by Mr. Morrison ought to stir the minds of rose-lovers. It is frequently worth while thus to challenge one's likes and dislikes, and the study may add new pleasures to rose-appreciation. Mr. Morrison, who, by the way, is one of the group of brilliant young men in the Federal Bureau of Plant Industry who have relation to the continuance of Dr. Van Fleet's work, has not mentioned one of the chief joys the Editor finds in roses—the sight of them in the early June mornings when they wear pearls of dew. Nor has he written of the color-beauty of the ripened hips in the winter, not to mention the enjoyment one then finds in the varied twig-hues.

IF ONE is willing to be thought "a little mad," he can find great amusement in asking his friends, gardeners and otherwise, why they like roses. This seems a preposterous question, but one will be amazed at the various replies. I asked it of a considerable number of persons, making no special effort to select those disposed either to like or dislike the flower. Only one did not care very much for roses. The others responded with every degree of righteous indignation and pity. When pressed for reasons, they were all rather vague, and gave little satisfaction unless rigorously cross-examined.

The results made a few facts apparent. Without exception, all replies were concerned with the individual cut blossom. No single reply related to a rose bush of any type, nor showed a thought of more than one flower. One might venture to say that the popular thought-image of the word "rose" is a cut-flower of a Hybrid Tea, and preferably an opening bud. The universal reason for liking the rose was its beauty.

If I had chanced upon someone who liked to grow roses for his pleasure in cultural success, my theme would have been divided. As I did not, I can only say in passing that there is a definite pleasure in successful cultivation which in itself is no mean reward to the gardener.

However difficult it may be to define or appraise beauty, it shows itself in qualities which may be examined and weighed as dispassionately as corn or potatoes, and there are definite and

universal names for some of its manifestations. Of these, the replies stated most frequently the beauty that resides in color, and, with diminishing frequency, in perfume, texture, and form. But beauty makes its appeal to intellectual perceptions as well as to the sensuous and the emotional. The answers to my original query in nearly every case showed that the reasons for pleasure in roses really lay in the realm of sensuousness and emotion, even when the answer apparently indicated the other classification.

Pleasure in the color seemed to be of several kinds. There were those who stressed the range of color, the blending of tints, and the particular excellencies of various hues. Apparently, few had much regard for the range of color with the thought of using it as the basis of a collection. Blending of color in every case related to the superimposing of one color on another, particularly as seen with a deep color in the heart and paler color on the petal edges. No one spoke of bi-color roses, nor of the color patterns one may have, as, for example, in the striped York and Lancaster, the banded outer color of the old Golden Gate or Mme. de Watteville, or the conspicuous eye in American Pillar, Heart of Gold, or some forms of Austrian Copper.

Color pleasures are rather personal affairs. The trite expression "that men like red roses and women the more delicate colors" is a mixture of truth and fallacy. The signal-like quality of brilliant color, be it red or another, is known to all peoples. The role of brilliant color in the matings of both birds and flowers, as well as men, is acknowledged widely. It seems rather unreasonable, however, to assign interest in the brilliant colors to the male alone. Since our civilizations are taking us farther and farther away from direct expression of our animal natures, the men of today ride forth for conquest in love or arms, not in brilliant trappings, but with other artifices more suited to the times. The blending of colors requires more intellectual observation but usually provides an emotional pleasure. One's mind does not, as a rule, delight in the mathematical degree or rate of color suffusion, nor does it give any immediate reading of the chemical relationships between the colors of the cell-sap and the cell-wall. Rather, one's fancy supplies the pleasures of

association and the comparisons with shell colors, marbles, fruits, or flesh color, opening other doors to other avenues of poetic imagination which are essentially sensuous in their root forms. Preference for any particular color cannot be defended, and does not need to be.

There was no great discrimination regarding perfume, "so sweet" being the usual adjective. No one chanced to mention his special pleasure in any one of the various scents, such as the peppery fragrance of the Teas, the delightful and unnamable scent of those Multifloras which have not been too much diluted by breeding with garden roses, or the singular quality to be had only in some of the old and none too cherished Hybrid Perpetuals. To nearly all, perfume was the average "so sweet" of the Hybrid Tea, a designation which very accurately describes that class of flowers.

And yet, what subject can take one so far afield in imagination as perfume! How vividly the spices and perfumes of the ancient caravans and argosies enliven the old tales of romance and adventure! From my very desultory and probably inconclusive observations it would seem that the perfumes most noticed and so talked of are those which are exhaled so strongly as to fill the air. This is not the state to be found in the usual collection of Hybrid Tea Roses. If the garden is large enough to shelter some of the climbing roses of Multiflora or Musk ancestry, there may result a perfumed air. There are Noisettes and Teas which yield a delightful scent, also old Bengals and Chinas, and many more old Hybrid Perpetuals and Damasks which are sweet and pervasive, but they are not the common garden roses of today; instead, one must enjoy the more intimate delight of holding the flower to one's nose, though certain modern roses called "fragrant" for catalogue purposes contribute small delight to a discriminating sense of odor.

Texture was rarely noted, and then only by comparison with marble or velvet, and yet what sensuous delights come under the touch! Is it nothing to feel the flowers, not the stems, in your hands; to sense, as the blind might, the textural differences between Kaiserin Auguste Viktoria and La France, General Jacqueminot and Mme. Edouard Herriot? Be assured it is a realm of great delight best discovered after sundown when the

eye is no longer distracted by the claims of sight. Then one can more quickly sense the beauties of surface so apparent to the fingers, the size and arrangement of the petals which make the essential substance of the flower, whether it be hard and firm, like some old Hybrid Perpetual, or as loose and transitory as a modern Hybrid Tea.

Form was mentioned but once or twice, and then usually confused with habit, which is a different matter. Pleasure in form is a curious mixture of intellectual and sensuous delights. Primarily, it is an intellectual matter that may or may not become sensuous. It is most difficult to analyze since it must be evaluated by both eye and hand, and no two observers bring to sight the same degree of vision, nor to touch the same sense of awareness, for most people do not practice the latter, and, in seeing, are entirely confused by color.

In the rose, moreover, form is hard to consider, because it is accompanied by the movement of growth. In many flowers, development progresses until a mature form is reached which is relatively permanent, and while the stages of unfolding may have their peculiar beauties, the image associated with the flower name is that of the full-blown flower. This does not seem to be the case with the rose, for nearly everyone prefers the earlier stages of unfolding to the full bloom. This may be because the common garden roses of today are so loosely built that they fall to pieces almost as quickly as the single roses, and so the forms of maturity are not permanent enough to make much impression.

There is an interesting measure of the powers of vision to be discovered in illustrations, because an illustration not only represents the skill of the artist making it, but his selective interest in choosing his subject. And behind it lies the further selection of the supposedly superior individual by the breeder or nurseryman who chose the variety from the mass of his unnamed seedlings.

If one examines the old rose books from the time when there were only wood-cuts to the present day, he will have a curious record of selective vision. It is necessary, of course, to have some understanding of the method of illustration, as each medium imposes certain arbitrary characteristics upon the results, and it is well to bear in mind in each case that the artist

PLATE II

Upper left, Early Roses, including *Rosa centifolia*, de Bry "Florilegium renovatum et auctum," Edit. 1641; Upper right and lower left, *Rosa centifolia* and *Rosa bifera macrocarpa* from "Les Roses," Redouté, Vol. 11 3d Edit., 1835; and lower right, Adam, T., 1838, from "Les Roses," Jamain et Fornay.

PLATE III

Upper left, General Negrier, HP.; upper right, Elise Sauvage, T.; lower left, William Griffiths, HP.; lower right, Star of Waltham, HP., 1875; the first three from "The Beauties of the Rose," Curtis, 1850; the last from "The Rose Garden," Paul, Edit. 1903.

was influenced both by his education and the social conventions of his time. What appears? Going back to the ancient books, when the wood-cut was the sole means of illustration, one finds among the roses figured both single and double forms, some wild, and some of the earliest garden varieties. We find, too, that the blossom is not over-emphasized, that it was depicted in relation to its foliage and fruits, and that its position on the plant is recorded. In spite of the limitations of the medium and the technique of engraving, there is a definite beauty of form, with symmetries and balances of the various parts which delight the eye and immediately suggest themes for decoration, patterns for textiles, motifs for wood-carving, figures for inlay or enamel. All this appears in varying degrees, even down to the time when wood-blocks were supplemented by copper plates and steel engravings. These last, through the extremely hard quality of their lines, have a more metallic suggestion of the petal tissue than the delicate wood-block, and are, consequently, less suggestive to the designer. All these plates are particularly concerned with recording the identity of the plant rather than the variety. On the other hand, books in which colored lithographs were freely employed commenced to appear during the last half of the eighteenth century, and concerned themselves more with the beauty of an individual blossom, recording a variety of more or less transitory value. This point of view has been largely maintained throughout present photographic illustrations. The illustrations which accompany this paper (see Plates II and III, opposite pages 12 and 13) are typical of their periods, and show the form of rose presumably desired at each time. One ventures to say this, because, as was noted before, garden roses are always the result of selection supposed to be justified by the personal tastes and discrimination of the originator, and such selection secures popular approval only as it reflects also the dominant rose-preference.

With the development of the Hybrid Tea through the last part of the nineteenth century up to the present time, we notice the appearance of new shapes among the flowers illustrated. If one examines the profusely illustrated catalogues of the day, he must conclude that almost any form will do, and that we must find our pleasures in other fields.

Years ago, however, an Englishman named Glenny made a definite effort to study flowers with a view to determining once and for all those qualities of form and pattern which should be regarded as excellent. The rose and many of the familiar garden flowers fell under his hand. To the modern eye his figures seem monstrous, for apparently they were contrived by the use of a compass. While the circle was considered the most perfect shape by many, in nature, where one deals with varying life forces, one rarely finds it. Those forms just removed from it are more common. For this reason, perhaps, one feels that Glenny's illustrations are most unnatural and undesirable. Certainly, in cases where his precepts were followed with some measure of success, as in the case of the show dahlia, the results were unenviable. Nevertheless, his work was important, and it is not unreasonable to believe that an occasional examination of garden flowers by his strict standard might have some salutary effect.

For myself, I know that my pleasures in roses are associative and have little to do with the roses themselves. I know that I like certain formal types of roses not much employed today; that I have a predilection for yellow colors and for the scent of the Tea race; that I have a fondness for wild roses because of their forms suggestive of decorative uses in design, and that I prefer climbing roses to bush forms. I know, further, that in many individual flowers, indeed among most garden sorts, there are forms which I consider definitely ugly because they show no scheme of organization; that in the masses of flowers I miss the luminosity which comes from a more translucent petal tissue; and that in the bushes of the common garden sorts there is a very undesirable habit of growth; and in spite of the condemnations which what I have written may deserve, I am convinced that the usual gardener who has advanced beyond the stage of cultural pleasure, enjoys the rose very little for what it is, and mostly for what it has been in poetry, in romance, and in all the pleasures of the senses.

Favorite Moss Roses

By JESSE A. CURREY, Portland, Ore.

EDITOR'S NOTE.—Mr. Currey strikes a tender chord in the Editor's heart when he writes of these old and lovely roses, the memory of which in his mother's garden is very vivid. Recently, just before the death of that great English rosarian, Rev. J. H. Pemberton, an attempt was made to interest him in taking up the Moss rose for hybridizing, but without success. Mr. Currey has not mentioned Wichmoss, a very pleasing Wichuraiana hardy climber with beautifully mossed buds, sent out in 1911 by the French grower, Barbier; or the rather well-known Henri Martin, a red sort which is offered by a number of Nurseries. Princess Adelaide is also obtainable, and one or two others.

Some breeding of Moss roses has been undertaken in this country, but so far it has produced nothing of value. The Moss rose is a sport of *Rosa centifolia* and its seedlings revert largely to the Centifolia type, a great many of them usually lacking the essential mossiness. The Editor knows of one grower who raised some hundreds of Moss rose seedlings, not one of which was equal to the varieties from which the seed was taken. There is a legend more or less current that a yellow Moss rose was once evolved by a grower in Louisville, Ky., but it has an apocryphal air. What we would like to see is an everblooming Moss rose of the Tea or Hybrid Tea type. Surely there are other rose-lovers in the Society who have devoted some attention to this charming old family, and the Editor wishes they would tell him of their experiences as Mr. Currey has done.

OF ALL the roses to be found in the garden, probably more sentiment attaches itself to those which have for years been called "the Moss roses" than to any other. We have always associated them with old-time gardens, for in the gardens of our grandmothers the Moss rose always occupied a place of prominence. In the gardens of today we seldom find them. While the sentiment still remains, and we all look with interest on the Moss roses, for some reason they have been passing out of general cultivation. Probably one cause is that there has been no new development of this type of rose, which plant-breeders seem to have neglected for many years. The Moss roses of our grandmothers' gardens are still the only ones available.

Despite the fact that these old Moss roses are easy of cultivation and do not demand the care and attention of most of the latter-day types, it appears that we have passed up these old favorites for the more modern, ideally formed roses of a greater variety of colors. Now and then I come across one of these old friends in a garden, and I always pause before the bush because it brings up memories of how bygone generations lavished

their love and affection on these peculiar plants, so much favored in poetry and sentiment.

Years ago, in England, there was keen rivalry among the amateurs to exhibit Moss roses. The ideal sought was to produce a rose with a bold, mossy crest showing just a peep of color between the folds of the calyx. If, when exhibited, the bud was about one-third open, it was regarded as ideal, and always brought forth great admiration. In the Victorian era, no corsage was complete without a Moss rose, and no dandy thought of parading the popular walks of the day unless he had, in the season, one in his buttonhole.

Some of our growers feel it is time for a revival of the Moss roses, and in reading over catalogues it is in evidence that there is a movement to re-popularize this one-time favorite of the garden.

In addition to being of easy culture, the Moss roses have always been loved for the great number of flowers which they produce in a season. The catalogues of the present day usually list five or six varieties, but the latest introduction of this type is now nearly fifty years old. A search of the Moss rose varieties available today lists as the latest introduction, Blanche Moreau, which made its first appearance in 1880. Undoubtedly, it is the best of the white Moss roses. It is a very vigorous grower and needs little or no pruning—just an occasional cutting out of old and decaying wood. The bud, which is the chief charm of all Moss roses, is long and pointed, and for pure whiteness, when the flower opens, no other rose can match it.

The favorite, I believe, of all the Moss roses is the one we always associated with the gardens of yester-year. It is always referred to as the Common or Old Moss rose, and was known in England as long ago as 1596. When compared with some other Moss roses, it is regarded as only a moderate grower, but in the favorable climate we enjoy in the Pacific Northwest it frequently exhibits full vigor. One bush I saw several years ago, near Salem, was fully 6 feet high and probably 4 feet in diameter. It is very sweetly scented, and the mossy crest is long and richly green. Some growers advocate close pruning, but in old English gardens where this more than three-century-old rose is cherished, it is noticeable that the plants appear to be only

pruned about half-way between what is known as severe pruning for some of the weaker growing Hybrid Tea roses, and the long pruning adopted for the strong, vigorous Hybrid Perpetuals. It takes several years for this oldest of all Moss roses to get well established, but after the third season, when it is full and bushy, it will give a good account of itself, and is remarkable as one of the best summer-blooming roses.

While this Old Common or Old Moss rose is the favorite, there is another which achieved almost instant popularity when introduced in Europe in 1827. This is listed in the catalogues as the Crested Provence. It was found growing upon an old tower in Switzerland a century ago. It is really a mossy or crested specimen of the old Provence rose, which was called the Cabbage rose. Sometimes it is listed as Chapeau de Napoleon. It is also sweet scented, and in pruning it, if the usual directions given for handling Hybrid Perpetuals are followed, good results will ensue.

Salet is a deep crimson Moss rose with a purple cast, and in old French gardens it was regarded as one of the finest, though, according to present ideals, it would probably lose favor. In my opinion it is rather too round and globular and lacks the symmetry and grace of the mossy crest so attractive in the beautifully pointed bud of Blanche Moreau. Salet, however, is very free-flowering, and when the flowers are fully opened they are very showy.

In some of the real old gardens of France and England are to be found plants of La Neige, which was very popular for many years after its introduction in 1805. It is a semi-double pure white of vigorous growth and produces many clusters of flowers, therefore its chief value lies in the fact that it makes a decidedly attractive ornament for the garden. Another of the same type, that is, one which produces flowers in clusters, is Baron de Wassenaer. It is light crimson and a so-called perpetual bloomer.

If the efforts to revive the custom of using Moss roses for corsages and buttonhole ornaments is successful, I think the plants to be found in the gardens will be the Common or Old Moss, Blanche Moreau, and the Crested Provence, for the mossy crests of these three varieties are the heaviest and they are all wonderfully free bloomers.

Tea Roses for Southern Climates

By CAPT. GEORGE C. THOMAS, Beverly Hills, Calif.

EDITOR'S NOTE.—Because it is believed that for Florida, the Gulf Coast, and southern California, where growth conditions are relatively constant, the Tea roses do much better than the rest-requiring Hybrid Teas, Captain Thomas has been asked for a statement with variety suggestions. It is unfortunate that, as yet, many of these Teas are not in American commerce, but diligent effort is proceeding to increase available Tea varieties in America.

THE BEST of the Teas are superior, in the southern California seacoast, to Hybrid Teas or Pernetianas. They have finer foliage, hold it more tenaciously, and they bloom with greater freedom during the entire year, seemingly not requiring a rest period in our rainless summer. Many Tea roses are of fine size, with strong stems and necks, and while most of the reds—Mrs. Edward Mawley excepted—lack perfume when compared with Hybrid Teas, and the pinks are also deficient if judged by the best Hybrid Tea standards, nevertheless the yellow and light-colored Teas surpass their rivals in this respect.

In reds, it has been about as difficult to secure fine varieties as it has been to produce perfect red Hybrid Teas. In pinks, the Teas as a class are not as perfect for cutting as Hybrid Teas; but in yellows and light-colored roses the Teas are far and away superior in this climate.

If I had to choose between Hybrid Teas and Teas I would unhesitatingly select the latter. This decision is arrived at after a test of well over a hundred Tea sorts, with as many as fifty plants of favorite kinds, and after noting the actions of over one thousand varieties of Hybrid Teas and Pernetianas.

Since 1920, I have secured everything obtainable in Teas, importing many and finding a few standard sorts in this country. In addition to this, it has been possible to procure some very large old Tea rose plants which have been boxed and moved to my garden by truck.

Notwithstanding much effort, it has been difficult to get good stock of many kinds. Plants from abroad make a long journey from Europe to California, with necessary delay in the customs

and the Federal Horticultural Board inspection, and often have arrived badly dried out. Teas obtainable in our own country have frequently been own-root, and these abominations have taken several years to become established, while many have died.*

Therefore, in sending a list of Teas for southern climates, I feel that the data available is quite insufficient. I believe, also that Climbing Teas and Noisettes are of great value and, further, that some Hybrid Tea climbers which are not hardy farther North are very valuable in southern districts where there is no frost to fear. In this connection, I firmly contend that many Hybrid Tea and Tea Climbers surpass their dwarf parents in bloom as well as growth.

When one considers the many Teas which must yet be tested before definite conclusions can be given, it will be realized that the following list is wholly tentative.

DWARF TEA ROSES, WITH MAIN FAULTS NOTED, AND STATED IN ORDER OF PERSONAL PREFERENCE

RED

Mme. Rathswell. Deep rose. Medium size.
Rosomane Narcisse Thomas. Crimson to burnt orange. Small.
Red Maman Cochet. Deep claret to cream. Balls in dampness.
Francois Dubreuil. Ox-blood-red. Balls in dampness.
Souvenir de Therese Levet. Crimson-maroon. Medium size.
Souvenir de Gilbert Nabonnand. Fire-red to apricot-yellow. Shy bloomer in late fall.
Souvenir de Catherine Guillot. Darkest orange-red. Hard to establish.
Freiherr von Marschall. Purple-rose and cochineal. Varies.
Dr. Poleur. Carmine-aurora, and copper-red. Globular.
Mrs. B. R. Cant. Bright rose to silver-buff. Opens flat.
Simone Thomas. Carmine to coppery red. Mildews.
Christine de Nouë. Carmine-lake, shaded salmon. Mildews slightly.

YELLOW

Souvenir de Pierre Notting. Dark yellow to apricot. Discolors in wet weather.
Miss Alice de Rothschild. Canary to citron-yellow. Mildews.
Lady Roberts. Orange-apricot to fawn. Weak stems.
Jean Ducher. Golden salmon, shaded peach. Balls in cold and dampness.
Souvenir of Stella Gray. Light to deep orange, crimson splashes. Hard to establish.
Mme. Vermorel. Coppery yellow, sometimes with bronze center. Balls easily.

*This statement by a competent authority of the behavior of own-root Teas in a climate most favorable to them is a serious blow to the theory that own-root roses always do well in mild climates. The point seems to be that "home-made" own-roots from cuttings are good, and that the manufactured, greenhouse products are questionable.—EDITOR.

Mme. Jean Dupuy. Deep yellow-fawn, edged rose. Mildews.
Perle des Jaunes. Apricot, suffused light buff. Medium growth.
Anna Chartron. Cream-yellow, washed lilac-rose. Loose.
Golden Oriole. Deep saffron to deep cream. Small.
Mlle. Franziska Krüger. Cream-flesh to apricot-copper. Balls easily; mildews.
Marquise de Querhoënt. Salmon-red to saffron. Decorative; mildews badly.
Meta. Crushed strawberry to coppery yellow. Poor growth.
Mme. Chédane Guinoisseau. Canary. Fair growth.
Mme. Gamon. Apricot-yellow. Mildews.
Mme. Falcot. Nankeen-yellow. Loose.
Jeanne Philippe. Nankeen, bordered carmine. Mildews slightly.
Perle de Feu. Chinese-yellow. Small.

PINK

Maman Cochet. Carmine-rose to cream and fawn. Balls in dampness.
Mme. Lambard. Clear salmon-pink. Stems only fair.
Mme. Antoine Mari. Rose-pink to flesh. Loose.
Ernestine Verdier. Mauve-rose, shaded salmon. Medium size.
Comtesse Riza du Parc. Clear rose, salmon tinge, coppery yellow ground. Slightly cupped.
Joseph Pâquet. Rose on yellow ground. Loose.
Souvenir de W. Robinson. Salmon-carmine to nankeen. Mildews.
Vivo é Hijos. Carmine-salmon and apricot-yellow. Medium growth.
Docteur Grill. Clear rose, coppery center. Loose.
Bridesmaid. Deep silvery pink. Mildews.
Helen Good. Soft light pink, darker shadings. Varies.
Paul Nabonnand. Bright rose. Deocrative.
Duchesse de Brabant. Light silvery pink. Small.
Sunrise. Salmon-rose, center yellow, salmon, and orange. Promising—tested only a year.

LIGHT COLORED

Wm. R. Smith. Silver-flesh to cream-peach edged lilac. Balls in cold and dampness.
Lady Plymouth. Deep ivory-cream (sometimes yellow). Balls in wet weather.
White Maman Cochet. Light lemon to cream-flesh, edged rose. Weak stems.
Mrs. Myles Kennedy. Silver-white. shaded light peach-buff. Mildews.
Molly Sharman-Crawford. Eau-de-nil white. Sometimes ill-shaped.
Mrs. Campbell Hall. Buff-cream, suffused carmine-rose. Shy bloomer.
Baronne Henriette de Snoy. Solid light flesh-peach. Globular.
Blanche Martignat. Salmon-yellow, with pink glow. Globular.
Safrano. Fawn-yellow, shaded apricot. Does not last.
Marie Van Houtte. Cream-flesh to light peach, edged rose. Balls easily.

Where climbing Teas are superior to their dwarf parents, they are not included in the above lists. Examples of such are:

Climbing Papa Gontier, Climbing Helen Gould, Climbing Lady Hillingdon, Climbing Perle des Jardins, Climbing Georges Schwartz, Climbing Mrs. Herbert Stevens.

PLATE IV. CAPT. GEORGE C. THOMAS, JR., of Beverly Hills, Calif.

Captain Thomas, whose great rose-gardens are mentioned on page 21, is America's most distinguished living amateur rose hybridizer. He has given us the uniquely beautiful dark red climber, Dr. Huey, as well as the series of "Bloomfield" roses discussed by Mr. Cross on page 116.

Plate V

1. John Smith, of "Rose Acres," Hayward, Calif.
2. Charles W. Howard, of Hemet, Calif.
3. A portion of the gardens of Mrs. Charles D. Blaney, of Saratoga, Calif.
4. Roses at Mrs. Charles C. Derby's "Rancho de las Roses" at San José, Calif.
5. Reve d'Or in California.
6. The garden of Mrs. Ralph Isham, at Santa Barbara, Calif.
7. On the estate of ex-Senator James D. Phelan, near Saratoga, Calif.

The Land of Enchantment

SOME OF ITS ROSE-GARDENS, ROSARIANS, AND ROSES

By EDMUND M. MILLS, D.D., Litt. D., President Emeritus,
American Rose Society, Santa Ana, Calif.

EDITOR'S NOTE.—That much-loved rosarian, often called the "American Dean Hole," whose activities in rose organization and rose promotion are only second to his great life-work as a Methodist preacher, superintendent, and secretary, has removed to his long-prepared home in California after retirement from a life of strenuous beneficence. That he is rounding out his seventy-ninth year does not diminish his rose interest, and the quality of his keen wit is in evidence in these observations of his first year in California residence. The Editor feels sure Dr. Mills will not resent the hint that it is fortunate for the rest of America that he did not earlier remove to the land of sunshine if not of reticence, else we would all have had to join him in making California's ten millions a straight hundred!

CANON FARRAR tells us that Palestine is the whole world in miniature; that in that small country may be seen the fruits and flowers with which the men of every clime are familiar. It is equally true that California is a climatic composite of the entire world. Stretching a thousand miles north and south, there is as much difference in its climate as there is between that of northern New York and of southern Florida. There are places where the beholder may see the fruits and flowers of the tropics, and at the same time gaze upon distant snow-capped mountain tops.

While California had a wealth of native fruits and flowers, it has been further enriched by plant contributions from almost every country of the globe. The Franciscan monks brought their fruits and flowers from Spain; far-off Australia sent the eucalyptus tree. In this way, California came to possess its wonderful diversity of plant-life. In roses, the Orient and the Occident have given their treasures to her without stint.

There are some rose-gardens that could not be fittingly represented in less space than that allotted to this paper. The story of Capt. George C. Thomas' rose-garden, at Beverly Hills, with its more than twelve hundred varieties of roses, with scenic surroundings unsurpassed in the whole world, would alone deserves many pages.

Captain Thomas has tested many hundreds of rose varieties

in this great garden, but his supreme achievement as a rosarian is in his hybridization work, developed on a scale that has already produced hundreds of promising seedlings. He has laid the whole coast under tribute to get notable rose plants, many of them hitherto unnamed and unknown. He is doing a work that has vast possibilities, for he has assembled and is hybridizing with roses that no other rosarian has ever had access to. We may confidently expect, as the results of his experiments, rose classes of great value, distinct from all others.

Then at "Rose Acres," Hayward, is John Smith,* who at twelve years of age was growing prize roses in England. In his early manhood he was an official tea-taster in Ceylon. Now, in California, he represents several of the great rose-growers of Europe, and in his rose-fields are varieties that will not be on the market for years to come. He is a man of few words, but in rose-lore is "wondrous wise."

Down at Hemet, on the edge of the desert, are the vast rose-fields of the Howard Rose Company, producing yearly nearly two million roses. Its president, Charles W. Howard,* knows and grows roses, and loves them as well.

All rosarians know Fred H. Howard, of Los Angeles and Montebello. Mr. Howard is the Houdini of the rose-world. The winner of two Bagatelle gold medals, the originator of Los Angeles and a dozen other fine roses, he has you guessing what great rose he will pull out of his bag next.

In Pasadena are the Rare Plant Gardens of D. W. Coolidge, which are a Mecca for whoever is in search of the latest plant novelties. Many Californians believe that Coolidge's understock variety, which he calls "I. X. L." will supplant all other stocks, by reason of its vigor and the fact that it is thornless.

Also in Pasadena is the rose-garden of Robert Casamajor, the president of the Flower Society of that city. His garden is not large, but before any candidate is admitted its credentials are investigated by the critical owner, and if it fails to make good after a fair trial, out it goes!

In Tustin is the home and garden of A. J. Crookshank, a banker of Santa Ana. Many years ago, in this house, Mme. Modjeska, the famous actress, wrote her memoirs.

*See Plate V, facing page 21.

One of the great show gardens of California is that of Mrs. Charles D. Blaney, at Saratoga,* where the roses are fine, while anyone studying the flora of the state will find much of interest. Only with time, wealth, and love for flowers could such a garden be possible. Not far away is the rose-garden of ex-United States Senator, James D. Phelan,* which looks as if it might have been transported bodily from some estate in Italy.

Except my own, I am most familiar with the rose-garden of Mr. and Mrs. Charles C. Derby, "Rancho de las Rosas," about three miles from the heart of San José.* It is full of happy surprises. I was the fortunate guest of Mr. and Mrs. Derby during the three days of the San José Fiesta. Not only in the rose-garden do you find roses, but they peep out at you from the most unexpected places, and even look down on you from lofty trees.

In Santa Barbara are two notable rose-gardens. The first is that of the lady who was Miss Lolita Armour. This artistic little garden is devoted exclusively to growing the Miss Lolita Armour rose. The other is the rose-garden of Mrs. Ralph Isham,* a prominent official in the Garden Club of America. These are only two of many that might be named on the great estates in the foothills surrounding Santa Barbara.

Among the rose-gardens soon to disappear or to assume new names is that of the Camulos ranch at Piru, the former home of the Del Valle family. In Helen Hunt Jackson's "Ramona," she places the courtship of the Indian girl at Piru. The Camulos ranch has been sold, but the name, Del Valle, is indelibly written in the history of California.

At Whittier is the largest known rose bush in the world—a Lamarque 5 feet around the trunk at 1½ feet above the ground. Its branches cover a large house and it is estimated that there have been 180,000 blossoms on it at one time. In Alhambra is a rose bush, not so large, but more ambitious, for it has climbed up into a tree 125 feet.

In Redlands is a hedge of Gold of Ophir roses over a mile long, all grown from one rose bush. The hedge, which an elephant could not penetrate, surrounds an orange grove of more than twenty acres. Mr. H. H. Ford, the owner, when he bought, many years ago, 360 acres in what is now a part of the

*See Plate V, facing page 21.

city of Redlands, had a windmill and one Gold of Ophir rose on it. He plowed a furrow about 200 feet long, and his one Gold of Ophir rose furnished several hundred cuttings which he planted in the furrow; from these cuttings came all his mile of roses.

At Monterey is the famous General Sherman rose bush. Many years ago, when Gen. T. W. Sherman was stationed here, he fell in love with a Spanish girl of noble family. His love was reciprocated, and a betrothal followed. When he was ordered away, the Spanish maiden gave him a rose bloom. He returned it, saying "Plant it." She replied, "If you love me, it will grow." It did, but the General did not return! I have a beautiful picture of this woman in her old age standing under the General Sherman rose bush, true to her one romance.

The rose-gardens in the old Franciscan Missions, at Santa Barbara, San Juan Capistrano, and elsewhere, I hope will always be preserved as memorials of the Franciscan padres.

The rose-lovers of San José form really a college of floriculture and horticulture that is ultimately to fill California with expert rosarians. There is a rose-planting day in every public school in Santa Clara County. The children are taught to make rose-cuttings, to plant them and care for them, to bud and graft. The keenest rivalry exists between the schools of the county. San José is hereafter to be known as the "Red Rose City." One school is to have in its garden every red rose in commerce. The approach to this garden is to be lined on either side with white roses. Every road leading out of San José is to be fringed with red roses. Not only are the schools of Santa Clara County enthusiastically promoting rose-culture, but the Chamber of Commerce of San José has no other interest to which it is giving more loyal support. The great Annual Rose Fiesta, abandoned for some years, came back in 1926 with every indication that it had come to stay. Carrier pigeons bore notice of the celebration to the mayors of every city in California. The Roman Catholic Monastery near the city's center had been sold to the city and the Archbishop graciously allowed it to be delivered prior to the time called for in the contract in order that it might be the headquarters of the Fiesta. Concerts, pageants, and parades marked the three days of the celebration.

The owner of the principal San José daily paper secured

Frederick Warde, the eminent Shakespearean actor, to discourse on the flowers in English rose-gardens in the time of the Bard of Avon. It was worth a long journey to hear this man at his best. My hostess at San José seemed to me to have organizing ability sufficient to make her a captain of industry, and tact that would have enabled her to make a peace society out of any church choir in the country! It is estimated that over a quarter of a million persons attended the Fiesta. In the final great parade, the mayors of the surrounding cities led the procession. On my arrival in San José, at least half a dozen automobiles, with their chauffeurs, were placed at my disposal!

Los Angeles is planning a great Botanic Garden of 900 acres, to cost nine million dollars, in which is to be the greatest municipal rose-garden in the world.

Three years ago I visited the fine rose-garden in Balboa Park, San Diego. The same year I spent half a day in the fields of the Armstrong Nurseries at Ontario. I saw great fields of Souvenir de Claudius Pernet—it was a case of love at first sight.

The rosarians of Santa Ana think their location, climate, and soil will make their city the rallying-point for the lovers of the rose in southern California.

When the rosarian from the East arrives in California, he is greeted by many roses that he never saw before, including Teas and Noisettes galore, and the roses he has cultivated for years he does not recognize! They tell with great glee of a famous originator of new roses, east of the Rockies, who came to the coast and saw a rose that filled him with such wonder and admiration that he was eager to learn its name. It was one of his own roses that had already won a world-wide reputation!

Eastern and western rosarians have one thing in common—they differ in taste. I have two friends here. To one Souvenir de Claudius Pernet is anathema, and Golden Emblem is almost the only worth-while rose. To the other friend, Souvenir de Claudius Pernet is the acme of rose loveliness. In their wrangles they constantly appeal to me to decide "Who's Who in the Rose World," although neither is willing to accept my decisions! When I suggest that I think Rev. F. Page-Roberts is superior to either, they both regard me with a look of stony horror. Is there any absolute authority on beauty? Ruskin,

I think, said that Turner was the greatest marine painter in the world. Another great art critic says Turner's paintings remind him of "two tom-cats fighting in a dish of yellow tomatoes." Where is the authority on beauty in nature?

Perle des Jardins flourishes here, both as a bush and a climber. Duchesse d'Auerstädt is a lovely yellow, but is quite tender. I regard Belle of Portugal as a great climbing rose. For three months of the year, it furnishes a profusion of lovely pink blooms. The front of the plant, for a foot or 18 inches is white with mildew, while the rest of the bush is absolutely free from it. The three most widely grown red roses hereabout are Gen. MacArthur, Hoosier Beauty and Hadley; I never saw any of these roses in the East that would compare with their California namesakes. Rev. F. Page-Roberts has made a permanent place for itself in California. In almost every rose-garden you will find Roosevelt's pet rose, Duchesse de Brabant. Mme. Alexandre Dreux has been a great joy to me, but so have been New Columbia, Hill's America, Etoile de Hollande, and a score of others. Some of the new roses, like Mrs. F. R. Pierson, have not yet bloomed.

If my rose-loves are not as numerous as the wives of Solomon, they are at least as great in number as were the wives of Brigham Young, which is much more proper in America! Of the new roses, my favorites are Betty Hulton, a glorious yellow, as large as Druschki; and Modesty, a white that comes the nearest to being a constant bloomer of any rose I have ever seen. You have only to see them to surrender.

The great need of California rosarians is an efficient state organization, with sectional sub-organizations. By the middle of the present century, California will have ten million inhabitants. From Santa Barbara to San Diego the coast will be lined with the villas, bungalows, and palaces of the rich. There will be 250 miles of rose-gardens.

"All this I steadfastly believe."

Interesting Boys and Girls in Roses

By THE EDITOR

IN CONSEQUENCE of fortuitous rose connections, there has been paid to the American Rose Society $500 by the Rev. James H. Darlington, Ph.D., D.D., LL.D., Bishop of the Episcopal Diocese of Harrisburg, Pa., to form the Darlington Foundation, the income of this Foundation "to be used to promote rose-knowledge and rose-interest in a new way among the studious boys and girls of Central Pennsylvania."

In transmitting, through the Editor, his check for $500 to the American Rose Society, Bishop Darlington suggested that the first use of the income be "to establish annual awards in recognition of the best essay on the subject of 'Roses: Their Cheer, Charm, and Culture,'" as produced by pupils within the twenty-four Central Pennsylvania counties forming the Diocese of Harrisburg.

In collaboration with eminent educational authorities in Pennsylvania, Bishop Darlington proposed the following conditions, which have been accepted by the Trustees of the American Rose Society, for the contest above noted:

Any pupil of an approved high school, either public or private, located in any of the counties which follow, is eligible to enter this contest: Potter, Tioga, Clinton, Lycoming, Sullivan, Center, Union, Northumberland, Montour, Columbia, Blair, Huntingdon, Mifflin, Snyder, Juniata, Perry, Cumberland, Dauphin, Bedford, Fulton, Franklin, Adams, York, and Lancaster.

Using the theme above mentioned, "Roses: Their Cheer, Charm, and Culture," either wild or cultivated varieties may be discussed. Each essay submitted should contain not less than 250 words nor more than 500 words. It is suggested that the essays may take the form of a simple portfolio containing the essay itself, and, if convenient, either photographs or drawings, or both, made by the contestant to illustrate his essay.

This contest will be open for competition during 1927, and those desiring to submit essays in accord with these conditions can mail them to the American Rose Society, West Grove, Pa., not later than October 15, 1927. The awards will be announced not later than December 1, and will be published also in the ensuing issue of the American Rose Annual, reaching more than five thousand rose amateurs all over the world.

For the essay considered best in the judgment of a committee appointed by the Trustees of the American Rose Society, a first prize of $20 will be awarded, and for the next best essay $10. A third prize will be an annual membership in the American Rose Society, carrying with it the valuable publications of that Society for 1927.

If essays of sufficient merit are presented, it is the understanding that the Society may provide several additional awards in cash prizes and in rose books. There will also be an individual Certificate of Award, suitable for framing, supplied to each of the winning contestants, not exceeding four in number.

It is hoped that because of the known refining and interesting influences of roses and other flowers, those who have the selection of books for school libraries will promptly provide as many as possible of the standard illustrated works on roses and other flowers—those in the wild as well as those in gardens—making them accessible to the pupils for consultation in that study which it is the purpose of this contest to promote in relation to the preparation of essays to be submitted.* It is further hoped that interested and acquainted teachers will provide students who are in mind to enter this contest with opportunities to see the best neighboring flower-gardens, particularly those having roses whose names are known, and will also accompany pupils on thoughtful and non-destructive hikes through the field and woodland, to study but not to destroy by removal the rich natural flora of Pennsylvania.

This novel and pleasing plan for promoting rose interest among school pupils is commended to other regions in the United States, with the earnest hope that similar provision may be made so that boys and girls in scores of districts in the United States may be induced to participate.

It is pointed out that interest in plant-life is one of the most potent means of preserving order and improving morale in a school. It is further pointed out that as the matter is left to the judgment of the Trustees of the American Rose Society for future offers, it is not impossible that the Darlington Foundation may provide later to reward pupils for an account of the best school rose-gardens which may have been established.

Anyone who is familiar with the raw hideousness surrounding schools in the open country, and who further considers how easy it might be to make the surroundings of these schools beautiful instead, with a great educational advantage, can see how worthwhile is the idea which Bishop Darlington has given us.

The Editor believes it will be possible to supply a plan for a rose-garden about a school, if the necessary dimensions, exposures, and points of the compass are provided.

*A list of suitable books on the subjects mentioned is hereto appended: A Book about Roses, by Dean Hole (English); Roses, by Rev. J. H. Pemberton (English); Roses for All American Climates, by George C. Thomas, Jr.; The Rose in America, by J. Horace McFarland; Roses in the Little Garden, by G. A. Stevens; The American Rose Annual (to be secured through membership in the American Rose Society); The Practical Book of Outdoor Flowers, by Richardson Wright; A Manual of Cultivated Plants, by L. H. Bailey; Gray's School and Field Botany; Field Book of American Wild Flowers, by F. Schuyler Mathews.

A Beginner's Experiences

By DWIGHT L. ARMSTRONG, Lancaster, Pa.

EDITOR'S NOTE.—Nothing better proves the universality of the rose than the success usually attendant upon intelligent effort. Particular attention is asked to what Mr. Armstrong testifies concerning the use of wood-ashes.

MY EXPERIENCES are distinctly those of a veritable amateur, and I have gone through most of the trials and tribulations of those who do some experimenting on their own initiative without having enough background to be at all sure of results. I feel, however, that if one follows the suggestions set forth in the Rose Annuals and in the front of most of the growers' catalogues, he will not go far astray.

Good luck attended the setting out of nearly a hundred plants in the fall of 1925. These were mounded up about 6 inches, covered with leaves, and then a thin coat of manure was added to hold the leaves on. When the leaves and manure were removed and consigned to the compost-pile in the spring, not a single plant had failed to come through in good condition. When this is compared with the questionable success which had attended spring planting the same year, the scales weigh heavily in favor of planting roses in the fall. There is no question but that the plants sent me in the fall were far superior in growth and vitality to the ones I received in the spring, although both shipments came from the same nursery.

In the spring of 1924 all the wood-ashes from our fireplace were thrown on a small bed containing about a dozen roses, chiefly Francis Scott Key and Kaiserin Auguste Viktoria, which I have found to be rather easy black-spotters, but the plants in this bed were entirely free from both mildew and black-spot all season, producing some very wonderful fall flowers, the last of which came in November. Instead of using more wood-ashes in 1925, I put a half trowelful of muriate of potash around each plant and turned it under. About ten days later the plants stopped growing and every one of them died. Hence the first definite lesson: potash unquestionably conditions rose plants and increases their resistance to fungous diseases, but he who uses it must do so sparingly, and should

under no circumstances permit the chemical to come in direct contact with either the roots or the shoots.* About a teaspoonful of sulphate of potash applied to another half-dozen plants in the garden seemed to do no harm, and these roses were apparently immune to mildew and black-spot. All my roses were sprayed religiously with Funtrogen every four or five days, from July 1 on, and we had little difficulty with these two major rose evils, except during the first two weeks of August when there was rain almost every day.

Those rose-growers who have to think twice about the cost of upkeep or the time that constant cultivating demands, would do well to give the recently introduced peat moss a trial. It most certainly will hold a prodigious amount of water, is a splendid mulch, and gives the new shoots a better chance than hard clay. Most of my roses are planted in a sort of shallow basin which catches water readily, while the peat moss holds it and passes it on to the plant very successfully. It is most satisfying not to have to look forward to cultivation after each rain, and also to have no weeds to pull out. For the amateur with no gardener to do his work for him, it is a godsend.

Some new roses that found their way into the garden last fall gave us much delight. Etoile de Hollande was a star performer, and is as lovely a red rose as I have seen. It seems about as susceptible to black-spot as Etoile de France, however, but my bushes grew enough leaves from midsummer to fall to produce a gorgeous September crop of blooms. Ruhm von Steinfurth should be classed as a Hybrid Tea if the plants generally bloom as did my bush. There have been roses on it all summer, one crop after another, some of them of immense size, and all with wonderful fragrance. The buds are malformed, but the rose is good enough and such a lusty grower as to give great satisfaction.

Lady Craig put her best foot forward, and although her buds droop a bit, she is a very beautiful creation. She seemed stronger than Alexander Hill Gray, but her color fades more readily. No more satisfactorily tinted rose than Louise Catherine Breslau has come to our garden recently. The buds are very rich and

*Compare this with Mr. Day's experience described in the 1926 Annual, page 72.—Editor.

the opened rose, though a trifle faded in color, is so beautiful in form and size as to draw many compliments. Jealousy has mixed with admiration when I have seen Souvenir de Claudius Pernet growing lustily in friends' gardens, as I have had a dozen plants, not one of which has taken hold properly. This year, Ville de Paris filled the void that demanded a clear yellow rose, and we had about ten perfect flowers from a three-year plant. It is bushier than Souvenir de Claudius Pernet, and although the stems are not as strong, the flowers are fairly well held.

About forty own-root roses (potted) were set out in June, and although they were given every care and attention, half of them died and we never had a flower from any of them until early fall. It is my belief that the forcing these plants undergo does them no good, and I would much rather have the budded plants, although I understand many people prefer own-root stock. No more of them for me!*

The time is drawing nigh for our roses to rest for the winter season, but they have left with us many recollections of beauty and wonder as to what more lovely creations will be offered to us in the seasons to come. No one should commence rose-growing unless he is prepared to become enthralled, for it has a call that is quite undeniable.

ANOTHER BEGINNER'S EXPERIENCES.

This is my first year with roses. I planted twenty-seven Hybrid Teas in my garden, which is midway between Minneapolis and Rochester, Minn. The top-soil is good, with gravel underneath. I planted them with a piece of sod below each rose and filled in the hole with good soil, top-dressing the bed with well-rotted cow-manure. Lime was used once during the summer, and I gave the roses liquid manure every two weeks. I mulched the bed with lawn clippings because the weather was very dry. There was little black-spot but plenty of mildew and aphids. Columbia, Ophelia, Etoile de France, Radiance, Red Radiance, and Mme. Edouard Herriot were very good, Herriot especially, and from the results I had this season, I believe that the Pernetianas will do better in this district than any other kind. I bought the plants as near home as possible and paid the penalty because they were named almost anything except what they were. A Souvenir de Claudius Pernet proved to be a Hybrid Perpetual of some sort; Red Radiance was Radiance or something else; but I am sure of the varieties named. My roses were so fine that, when I took some to the local fair, people asked me from what greenhouse I had bought them.—*I. J. Season, Cannon Falls, Minn.*

*See "Own-Root Roses Again," page 35.

East and West Beginnings and Experiences

By JOHN F. MAHNEKE, U. S. N. R., Los Angeles, Calif.

EDITOR'S NOTE.—Naval officers seem to take to the rose; our great friend, Admiral Ward, was its devotee all his life, and an Australian naval officer contributes an article to this issue. Capt. Mahneke has followed both the flower and the Navy for a lifetime, and his experiences and suggestions will be valuable to beginners.

TWENTY YEARS ago, I became interested in rose-growing. Starting, like most inexperienced folks, I was easily beguiled by glowing advertisements into ordering from an eastern grower who specializes in roses on their own roots, and ships to any part of the world, by mail, one-year plants that are "guaranteed to grow and bloom the first year," etc. These little cuttings, "twelve for a dollar," came in a mailing-tube, with leaves fully developed.* They were planted in my garden in the middle of March, at Annapolis, Md. Snow and late frosts came along, as they too often do after a few warm, sunny days in the eastern springtime, and my little rose plants (most of them) gave up their tiny souls. So my visions of beautiful roses in my garden faded from view, but I started to do a little thinking, because I loved flowers.

By accident I came across H. B. Ellwanger's book "The Rose." What a vista the reading of his book brought to my mind! I studied and compared every rose bush which grew in my neighborhood, with the descriptions as given by him, and made up my mind that I would have some roses.

In 1907, I again ordered a few plants of well-known varieties, also on their own roots, but two-year-old plants. Weaklings they were, too, with long, spindly stems; they were planted about the middle of May. I had not as yet learned my lesson. A few of these grew and bloomed, some died the first year, and others grew and bloomed during the few years I was permitted to remain at home. I regretted to leave both.

In a few years the naval round brought me back to An-

*See picture of just such mailing-tubes received in 1926, Plate VI, facing page 40.

napolis. During my absence most of my poor rose plants had died. I started again, this time with a few budded plants. Previous to this I had visited many lands and climes. I had observed that roses which grew and bloomed in Maryland did not do so well in Florida, that roses which succeeded in the New England States were not exceptionally good elsewhere, while a few did well most anywhere. Why does the mocking-bird sing so sweetly in our southern states though seldom heard in the North? One word will answer, adaptability.

In 1917 I found myself stationed in Washington, D. C., and the year following I started another rose-garden. My plants, from a well-known Philadelphia house, were two-year-old dormant bushes, which included Radiance, Ophelia, Los Angeles, General MacArthur, General Jacqueminot, American Beauty, and others. Los Angeles was heralded as something beyond anything in the way of a rose which had come before, and so it was until the cold wintry blasts, coupled with alternate freezes, thaws, and rain, caused it to die. In California, its native home, it grows and blooms in wonderful profusion.

From the storehouse of twenty years of experience and observation, I name, to beginners, two roses, Radiance and Ophelia, which, if obtained in good, two-year-old plants, will give satisfaction, joy, and pleasure year after year.

Concerning rose "novelties," note what the eminent rosarian and author, Captain Thomas, says in the Rose Annual for 1926: "Last year, in California, the writer planted over a thousand varieties of roses, and during the past summer threw away 90 per cent of the new varieties as worthless." Think of it; in California, under the most favorable rose conditions, he threw away 90 per cent as useless!

I have tested all of Pernet's novelties, and while they give beautiful flowers, I find that they are hot-weather roses, doing best here in California. Souvenir de Georges Pernet and Mme. Edouard Herriot seem best. Souvenir de Claudius Pernet is hard to grow well, becoming established very slowly, and fading, like most yellow roses. The other Pernet (Souvenir de Georges Pernet) is a beauty; it is a free bloomer of a beautiful pink color, with fine petalage but, alas, it is odorless.

Should these rambling lines reach the eyes of folks who, like

myself, were easily beguiled by the flattering descriptions found in many catalogues, take my hint and buy only the kinds which have been proved worthy of cultivation in your neighborhood. Never buy cheap plants offered in department stores and from seedsmen who usually do not know much about roses, and care less. In most instances, such stock is dead before you buy it, or its vitality is so lowered that it cannot possibly recover. Remember that a plant out of the ground is like a fish out of water—still alive, but gasping for breath!

Buy your roses in the fall when they are dormant and get them in the ground immediately after they are received. Plant in properly prepared beds with sufficient drainage to carry away surplus water. A rose standing in water will choke, like you would with your head under water.

In the springtime, when your plants have started to grow, stir up the surface soil and work in about a teacupful of ground bone to each plant. Lest we forget, do not plant your roses too deep nor too shallow—just about as they were in the nursery.

Pruning can only be learned by experience; Captain Thomas gives splendid directions for it, as do some catalogues. Soak your rose-beds thoroughly about once a week during a dry season and do not wet the leaves and flowers. Save all your garden litter, such as leaves, clippings from your lawn, old shoes, paper, wood, prunings from your plants and trees; burn this and save the ashes. In the fall, scatter these ashes over your rose-beds as a most valuable fertilizer, tending also to be a fungicide, preventing mildew and black-spot. Keep your roses free from insect pests and aphids by dusting the plants about once a week with tobacco dust or spraying with Black-Leaf 40.

It seems that our great rosarians have, in their endeavor to develop beautiful colors, heavy petalage, strong necks, and good foliage, bred out of the rose its finest character, that of fragrance. Who, on picking up a beautiful rose, does not immediately bring it up to his nose, and if the sweet rose scent is missing, who does not feel disappointed?

I have experimented in hybridizing some of the old fragrant favorites with some of the very best of our present-day varieties, and I hope to produce roses having the good qualities of the old, combined with the best features of the new.

Own-Root Roses Again

By G. A. STEVENS, Harrisburg, Pa.

EDITOR'S NOTE.—Mr. Stevens, whose rose articles have long been a feature of the Annual, and whose delightful book, "Roses in the Little Garden," is the last word in rose books, is not only the Editor's associate but has supervision of Breeze Hill Gardens, where were growing in 1926 some 548 varieties of roses for observation. He has discussed own-root roses at the request of the Editor.

IN THE SPRING of 1926, the catalogue of a certain widely advertising rose concern contained the following somewhat ungrammatical statement:

We are growing roses so that they will grow almost anywhere and for almost anybody, and grown on their Own Roots as they should be grown for permanent use. So grown they do not go wild or, in other words, revert back to the wild root upon which they are budded, and in a short time they are nothing but wild shrubs of no use whatever.

This merchant seems to say that the way he is growing roses is the only way they should be grown for permanent use. He implies that roses which are not own-root "revert back" (*sic*) to the wild root upon which they are budded. The first statement lacks truth; the second is a gross exaggeration.

Because this question is raised, in what seems a prejudiced statement, it seems worth while to examine some authorities upon it, and to add some experimental evidence.

Bailey's Standard Cyclopedia of Horticulture, America's leading authority, states in its section referring to garden roses:

Garden roses may be secured from the dealers grown in two ways: on their own roots and budded on the Manetti or similar stock. There is much difference of opinion among growers as to the relative value of the two methods of propagation, and it must be admitted that some of the stronger varieties will do equally well either way; but the opinion of the writer, based upon the experience of more than a quarter of a century, is that all of the less vigorous varieties are far better budded than on their own roots.

H. B. Ellwanger, perhaps the most highly esteemed American writer on the rose of the last century, states in "The Rose":

Many florists do a large and exclusive business in sending by mail small plants, cuttings of a few weeks' growth; this is all very well, to give opportunity to many people to obtain plants which could not, owing to lack of express or railroad facilities, be forwarded in any other way; but these bantlings often require much care and tender nursing, and are seldom of any account until the second year from planting. . . . Quality should always be preferred to quantity; this is true whether respecting the plants or the flowers of roses, and one good

two-year plant is worth more than six of the sucklings often sent by mail—poor, weak infants, which never should have been sent from the nursery.

Captain George C. Thomas, one of the best-known and most successful rose amateurs in the world, and by far the most active American rose hybridizer of the day, writes in "The Practical Book of Outdoor Rose-Growing":

The following experiment was made with own-root stock: One bed was made and over fifty roses on their own roots and fifty budded roses were planted in it side by side; all of old and established varieties, and, in the case of the own-root plants, purchased from a grower who advocates their use. At the end of the first summer the difference was plainly apparent and was strongly in favor of the budded plants. At the end of two years there was no possible doubt as to the results; the budded plants were far superior. Experiments with other roses have endorsed this result, and budded roses are recommended for all outdoor work for the majority of roses . . . In one garden budded roses originally planted in 1900 and moved to their present place in 1907 are still (1916) strong and healthy, and of the original lot less than two per cent have died in over fifteen years. In another case budded roses planted over thirty years ago are still flourishing.

In his later work, "Roses for All American Climates," Captain Thomas discusses the question luminously:

A great many roses may be successfully propagated as own-root plants. . . . Some roses will fail when grown on their own roots. Practically all types of hardy ramblers, the species and subspecies, do splendidly on their own roots. The strongest of the Hybrid Perpetual, Hybrid Tea, and Tea Roses will do well as own-root plants under certain conditions. . . . A great many very beautiful weak-growing varieties fail on their own roots.

Practically every rose may be successfully propagated by budding, and when budded will do as well as (or generally better than) own-root plants. . . . No rose will fail when budded. . . . Own-root roses, outside of ramblers and species, need for success a climate without extremes of any kind. . . . Any roses propagated wholly in greenhouses, especially those from a race of indoor ancestors, are likely to prove inferior.

Taking no account of what Mr. McFarland has written in "The Rose in America," or of my own statements in "Roses in the Little Garden," both carefully considered recent books, it is proper to refer to "Roses and Their Culture," published in 1926 by Prof. S. C. Hubbard, of the Department of Floriculture, Massachusetts Agricultural College. In that fine little manual this appears:

One of the questions which confronts the beginner is the kind of plants to buy. Shall they be budded or own-root? . . . On the proper answer . . . rests his success. It is generally conceded that budded roses are the most successful. There may be some sections where the own-root plants will do as well.

From one important English work, "The Book of the Rose," by Rev. A. Foster-Melliar, the fourth edition of which was edited by Rev. F. Page-Roberts, then President of the National Rose Society, is stated this general English attitude:

> Roses are not grown on their own roots, simply because the very large majority of them do not either grow or flower so well when thus treated, as when worked on suitable stocks.

Authorities might be multiplied to show that budded plants are permanent, and open to less objection than those on own roots, but the very best answer is that in France, Germany, and England, where rose-growing was a mighty business before it was thought of in America, or before the machine-like methods of American greenhouse manufacture were invented, the experienced rosarian does not grow, does not advocate, and would not consider using own-root plants in place of budded roses.

It should here be interpolated that I am not proposing the budding of the hardy climbers, the species roses, and the strong-growing sorts able to provide themselves with a properly vigorous supporting root-system. The real rose-grower prefers that method of propagation which will give the best results in each particular variety for the longest time in the garden. He grows those on their own roots that do best on their own roots. But all his roses, budded or own-root, have at least one full season outdoors in the open ground, while the catalogue man who has aroused my ire by his statements grows roses only in his greenhouses. Indeed, many if not most of the commercial own-root roses sold in full leaf are grown in greenhouses from greenhouse plants, though some of them may be stored in coldframes for awhile to await sale. The grower seldom sees them bloom; he merely manufactures little plants.

The next remarkable statement in this catalogue is:

> The budding is usually done on wild Manettia Rose stalks.

Aside from the facts that the rose is Manetti, and not "Manettia," that Manetti is a cultivated rose and not a wild one, that the budding is done on stocks, not "stalks," and that hundreds of thousands of roses are annually budded on Multiflora and other stocks, the sentence is fairly accurate. But it is a commentary on the knowledge of a commercial writer upon

roses that he does not know the difference between "stock" and "stalk," and that he does not know that Manetti is a garden rose raised as a budding stock by Signor Manetti of the Botanic Gardens of Monza, Italy, and introduced into England through the famous Thomas Rivers about 1835.

I had occasion to visit a number of own-root rose establishments early last summer. In the three great ranges of greenhouses which I saw, something like five millions of plants are produced each season. Yet I did not see there more than five kinds of roses in bloom, and the number of flowers on them was very small. The roses are planted close together in the greenhouse benches, and kept mowed down close to provide the soft and tender cutting material for further propagation. They get no chance to flower. None of them see the open ground or are exposed to the open air until they are sold. It is for this reason, and also because of the high temperatures used, that these little plants so frequently carry mildew and black-spot with them.

The superintendent of one of these great manufacturing plants told me that he would like to see some of them bloom some time, but that under their growing methods the roses never flowered. Is it any wonder that mixture of varieties often occurs in these places where there is no opportunity for "roguing" or proving varieties? Nowhere did I see an outdoor rose-garden near one of these establishments.

There was a bench of European varieties which had been imported for trial by a large grower of cut-flowers who, finding them unsuited to his purpose, had passed them on to this firm for propagation and sale. Most of these were budded plants as received from abroad, and they were in fair bloom. To my astonishment I was told that hardly any of them were any good. Since many of them were highly lauded abroad and some of them had made good at Breeze Hill, I was curious.

"How do you know they are no good?" I asked.

"They won't root."

"But that doesn't mean that they are no good."

"It means that they are no good for our purpose."

"Then I understand that no matter how beautiful a rose is, or how fine a bloomer, if it will not root under your method of propagation, you classify it as no good, and discard it?"

"That's right. It's no good to us!"

Later in the season, one of the largest growers of own-root roses visited Breeze Hill. He told me frankly that he knew absolutely nothing about the behavior of roses outdoors; his experience was entirely under glass. Now it happened that we had grown, last summer, a bed of Willowmere which was the pride of the place all season. I asked him if he was propagating that good rose. He looked at it, and said:

"No; see the thorns? That means Austrian Briar, the Pernetiana strain. They're no good!"

"What do you mean, no good?"

"Well, they are not profitable."

"You mean that you cannot root them cheaply enough to make it a profitable greenhouse proposition?"

"Yes."

Thus, if a rose won't root under their peculiar, artificial manufacturing conditions, it is condemned and thrown out.

But to return again to the interesting exclusively own-root catalogue we were discussing, note the next paragraph:

> We sometimes wonder why these budded roses are offered by some firms, selling them to an unknown and unsuspecting public, but as Barnum said: "American people like to be humbugged." We are content to adhere to the principles laid down by the founder of this business who, notwithstanding the many ridiculous claims put forth by men who were yet unborn when he was active in the business of producing own-root roses, now claim to have invented this method of production.

If the writer means to say that men who were unborn when his firm was actively engaged in the production of own-root roses, claim they invented budding, he is "all wet." The method of propagation by budding and grafting is as old as horticulture itself. Refer to Virgil's Georgics, where the method of grafting grapes is discussed; refer to any old herbal. To Rivers, writing in 1843, Paul in 1848, Parsons in 1847, Parkman in 1866, and to Dean Hole in 1870, budding roses was an old story, and the only story they liked to tell. If he means to claim the origination of the mail-order own-root business, he is also in error. It is well known that this method of rapid rose-propagation was originated by the late Antoine Wintzer, of West Grove, Pa., some sixty years ago, who lived to recognize the superiority of the budded outdoor-grown rose plant for garden use.

Now here are the facts, free from wild claims:

All real authorities recognize budded roses as good roses.

The danger of "suckers" from budded roses under modern methods is negligible.

Budded roses live thirty years or more.

Own-root roses, except varieties and classes of especial vigor, take much longer to become established and to bloom.

Own-root roses of miscellaneous sorts, as sold by the most of the own-root catalogue firms, frequently winterkill, or dry up before winter, unless they have most careful coddling.

Own-root rose-growers are usually ignorant about the behavior of roses outdoors, because they make no garden tests.

Own-root rose-growers are disposed to push varieties that they can root easily, and to disparage or discard others, no matter how good they are.

Own-root roses as generally sold are very much smaller, younger, and less well-established than budded roses as generally sold, even when of varieties that may do well on their own roots. They cost far more per pound of useful plant structure than do the budded open-ground roses.

Now for a careful and impartial test, made during the summer of 1926, at Breeze Hill gardens.

In a desire to be more than fair, and because Radiance sometimes does well on its own roots, it was chosen as the variety to try. Six Radiance plants were ordered from each of ten different advertising own-root growers.

The plants were received between May 14 and 18. They were photographed* and then carefully planted in a bed prepared just as beds are prepared at Breeze Hill for all roses. All summer they were given exactly the same attention as other roses in the garden, being cultivated regularly and sprayed weekly. Here are the results:

Lot No. 1. Cost $1. Planted May 18. On October 25, 5 were alive, one of which was not Radiance but a sprawling Tea which has not been identified. It is the best plant, having one stem 15 inches long. The whole lot produced 7 flowers in the season.

Lot No. 2. Cost, $1.25. Planted May 18. On October 25, 6 plants alive, the best one 10 inches high the others varying. All little things, barely ready for 3-inch pots. The entire lot produced 9 flowers in the season.

Lot No. 3. Cost, $1. Planted May 18. October 25, 6 plants alive, one of which is not Radiance but an unknown red Hybrid Tea. The tallest plant is 10 inches, the others vary. The entire lot produced 7 flowers in the season.

Lot No. 4. Cost, $1.50. Planted May 18. October 25, 6 alive, 3 of them strong enough to grade about No. 3 in a first-grade nursery. The best one is 15 inches high with one stem which would caliper about a quarter inch. The other three are small. The entire lot produced 10 flowers in the season.

Lot No. 5. Cost, $2. Planted May 18. On October 25, 5 plants alive, 3 of

*See plate VI, opposite.

PLATE VI. Representative samples of one-year, own-root roses photographed upon receipt, and the packages in which they arrived. Each package contained at least six plants. (See page 40.)

PLATE VII. MR. J. A. KEMP, of Little Silver, N. J., and his new rose, JUNIOR VAN FLEET, a dwarf form of the popular climber, Dr. W. Van Fleet, described on page 220.

them not over 4 inches high; the tallest 8 inches. The entire lot produced 3 flowers in the season.

Lot No. 6. Cost, $1.50. Planted May 18. On October 25, 2 were alive, one 8 inches high, the other 4. The plot produced 1 flower in the season.

Lot No. 7. Cost, $1.25. Planted May 18. On October 25, 2 plants were alive, one a yellowish white Tea, the other a red Hybrid Tea. The entire lot produced 3 flowers throughout the season, none of them Radiance.

Lot No. 8. Cost, $1.48. Planted May 18. On October 25, 6 alive. The best one is a Mrs. B. R. Cant, about 18 inches high which had 6 flowers. The other 5 are Radiance, the best of which is 10 inches high. All 6 produced 10 flowers during the season.

Lot No. 9. Cost, $1.20. There were 6 Radiance ordered and 6 received, together with 1 Mrs. B. R. Cant. Planted May 18. On October 25, all were alive, none over 8 inches high. The lot produced 5 flowers in the season.

Lot No. 10. Cost, $1.50. There were 6 Radiance ordered and 6 Red Radiance received. Planted May 18. On October 25, all were alive. One was very small, and one about 12 inches high. The lot produced 7 flowers during the season.

Thus we got 61 rose plants for $13.68, plus postage which we had to pay in some instances. During the season we garnered 62 fair blooms with poor stems. There were left 3 plants of the variety ordered fit to go into next season, and 2 plants of other varieties, besides 46 weaklings. For this same money we could have bought a dozen two-year-old budded Radiance, and paid the express on them, any two of which would have given us as many or more flowers of good quality, with adequate stems. That is, we would have had six times the bloom for the same amount of money, and would have 12 good plants to go into the winter with instead of 3 mediocre ones, and a host of weaklings which may not survive. This is in exact accord with Ellwanger's statement quoted above.

A previous test with many other varieties gave less favorable results. Some that lived over the first winter became well established so that at the end of the second growing season they were just about the size of the ordinary budded roses in the spring of the year before.

Some commercial own-root plants when truthfully sold may do as well in three years from planting in the Middle States as budded roses do in one year from planting. In parts of the South they may do much better. For the anxious and informed rose-lover they are too slow, too uncertain, too expensive. They ought not be sold in equal competition with budded plants that average many times their size and vigor.

Buying Roses from Traveling Agents

AN EDITORIAL REPORT

TO CALL this report "The High Cost of Not Belonging to the American Rose Society" would be more accurate, for that is exactly what the report will show.

There is no least reason why roses should not be sold by agents to those who prefer to buy them that way. There are reputable nursery concerns sending out representatives who offer and deliver roses with probably no more misrepresentation and inaccuracy than may be found in the average catalogue. If the buyer is willing to pay the double price asked, and be satisfied with the ancient varieties frequently offered, that is his affair.

Many replies have been received to a referendum question sent out last year, indicating that exceedingly few members of the American Rose Society do buy from agents. The reasons given are various, but may be summarized as indicating that, first, our members know better; second, they prefer a wider range of varieties than agents usually offer; and, third, they do not care to pay the higher prices.

The sales through agents are usually made by the plate-book pictures shown by these agents. So far as I know, there is no dependable source of accurate and comprehensive rose illustrations available to the agency nurserymen, and they have to take the best they can get, sometimes with weird and wonderful results. I suspect that frequently the assortment offered for sale is related to the best-looking plates, rather than the best roses. Indeed, an inquiry reported in the 1921 Annual proved that many ancient and outclassed varieties were then sold through agents, whose plate-books contain pictures of Baltimore Belle, "African Black," Louis van Houtte, Queen of the Prairies, Coquette des Alpes, and other roses from which the modern rose-garden is conspicuously free.

But there is another and less excusable class of agency sales of roses. Complaints have been frequently received by the Editor of the operations of one firm which, first from a Missouri location and later from a Texas location, was selling what were

called "specimen roses," at from $2 to $6 each. Later another protest came in, relating to the operations of another Missouri concern, also selling highly lauded "specimen roses." The situation was referred to the Vigilance Committee of the American Association of Nurserymen, which seeks to promote truth in the nursery trade, and it was soon found that there was no way in which the "specimen rose" concerns could be restrained unless some aggrieved customer would prove that he had actually been deceived, and that the mails had been used to complete the sale, permitting the invocation of Federal authority.

A lady in Illinois sent me a copy of her order to one of these concerns, in which she was buying "6 Japanese Creepers," which she supposed would be roses, and 17 named roses, for a total consideration of $44. She had received the common Virginia Creeper in fulfilment of this order, and she was aggrieved. When urged to give further necessary details, she was silent.

All boiled down, it appears that there is no way in which legal restraint can be applied to these peculiar concerns. It has been possible, however, to find out what they sell.

The Texas concern, as reported by the county agent (of the Federal Department of Agriculture) nearest it, buys all its roses "in wholesale lots. . . . The company of which you make inquiry is not selling any better rose bushes than are grown by any grower in the county. I see no reason that they should make any unusual claims on the growth or size. . . . I would not say that this man is perpetrating a fraud, but he is saying too much about his roses."

These are the roses which have been sold in many of the cities of the East at from $4 to $6 each, to the amount of thousands of dollars in a city, on the claim that they were four years or more old and altogether better and stronger than any plants otherwise obtainable. The concern selling them is quoted as "undependable" both by a bank in the neighborhood and in a confidential credit directory maintained by nurserymen.

In December, 1926, I was called on by an agent representing another of these "specimen rose" concerns, this time from Missouri. He showed his plate pictures of wonderful roses, and

exhibited a drawing of the sort of plants he said were to be delivered. These plants were explained by him to be several years older than ordinary roses, and to have a very thick stem, resulting from previous pinching back, together with a correspondingly vigorous root-system. He admitted that the roses he was offering at $2 each were furnished by an alleged grower in Missouri, whose name, it was found on investigation, was also in the list of untrustworthy nurserymen.

This agent was selling roses at $2 each, within the limited range of his plate-book, to people who were willing to buy. It was the astonishing effect of his salesmanship that bothered me, for he cheerfully exhibited his order book, showing me the names of men and women I know in this city who were buying from him at the rate quoted, in orders of $20 and more, in all cases paying 40 per cent of the price in cash when the order was entered. He showed me an order from a gentleman in a suburban town near Philadelphia for $800 worth of these roses, which he explained were to be planted in four beds which he (the agent) had designed, each bed being "edged" with the vigorous-growing Rugosa hybrid, F. J. Grootendorst. Later, discovering he was using us as a "reference," I had to warn him to desist.

Among the other items of "knowledge" turned loose by this enterprising salesman was one concerning a universal spray which would take care of all rose troubles. He said that if you used one part of wood alcohol to two parts of water and sprayed it on the roses every two weeks, everything would be lovely and you would have no bugs or bothers!

From a Chicago suburb came a report of a sale by a member of this same hyphenated firm, with a most unsatisfactory delivery as to varieties, quality of plants, and adjustment.

Perhaps this statement should not have been written and I should just let these "easy marks" go on and pay double for dubious roses in restricted assortment, without comment or criticism. Yet because the question has been raised by members of the American Rose Society, the facts are here set forth.

Why We Stopped Selling Roses in Spring

By GEORGE H. PETERSON, Fairlawn, N. J.

EDITOR'S NOTE.—For some years we have been urging the planting of dormant outdoor-grown roses in fall rather than in spring. It was therefore with gratification that Mr. Peterson's action was noted, in boldly announcing that he would ship only in the fall. He gives good reasons, and the Editor could give a dozen more! But it should be added that the next best thing to fall planting, or to fall buying and burying in preparation for very early spring planting, is the earliest possible purchase and planting in spring. The wise reader will get busy in February or earliest March with his order for shipment, so that he may chase the winter's frost with his spring planting.

Sometime another rose nurseryman may acquire the courage to establish a critical date in spring after which he will not ship any so-called dormant plants. More success and greater profit will follow!

I HAVE been asked to explain why we have come to the decision to ship rose plants in the fall only, i. e., from about October 1 to December 1. So far as I know, we are the first rose-growing establishment to take this unusual step, and while our announcement may have seemed sudden, it has really been contemplated for some time.

It was, I believe, Patrick Henry who declared that his feet were guided by the lamp of experience; that he knew of no way to judge the future but by the past. And so when I have compared the almost unfailing success attendant upon fall planting with the much less uniform success of spring planting, my chief wonder is why I lacked the courage to take this stand before. After a spring so vicious on newly set plants as that of 1926, we could no longer hesitate.

In Europe, the fall season is generally accepted for the bulk of rose-planting. Here, too, planters of wide experience invariably favor the fall. For instance, such nationally known rosarians as Dr. Huey and Capt. Thomas, together with hundreds of other successful amateur growers, have invariably preferred to plant in the fall. Also, I may refer to the Editor's article in the September (1926) *Garden & Home-Builder*, entitled "Some Real Reasons for Planting Roses in the Fall."

It is conceded by plant experts that a hardy plant established

in the ground when spring opens will not only withstand the vicissitudes of spring weather better, but will make stronger growth and yield better bloom than a similar plant set out in the spring. Before growth is visible above ground it is going on underground. A fall-set plant has a head start on the spring-set plant, and growth proceeds more naturally and with greater vigor. The roots of the spring-set plant are handicapped in the race. They are somewhat in the position of the commuters who arise at 7 and must catch the 7.25 train—they must hurriedly "grab" what moisture and nutriment they can. The commuter on the same train, who arose at 6.30 or before, has assimilated a good breakfast and is better prepared for the day's work.

The fall planter is not only more likely to get better plants, but he will also get them for less, since it costs the nurseryman money to store and care for the plants over winter. Furthermore, he is sure to receive every plant in perfect condition, since in the fall the plant is really just going into the dormant condition, and the wood does not then blacken or die back as is its tendency when the urge of spring is forcing them, no matter how carefully the nurseryman tries to retard it.

The fall planter has a much longer period for his operation than the spring planter has, for planting may be safely done so long as the ground is open, but the spring season for properly planting dormant roses is limited to a few weeks.

It will not be easy to stop the planting of roses in the spring. There will always be men or women whose planting-blood will not begin to flow until spring is upon us. There will also always be those whose first desire to plant roses will come to them in the winter or spring. Doubtless there will always be some rose merchants ready to serve them, and we may hope that soil and weather conditions will be favorable, that the nurseryman has good stock, and that results will be encouraging.

For ourselves, the die is cast and there is no turning back, especially as this first exclusive fall season succeeded far beyond our expectations.

To leave no possible chance for misunderstanding, I should, perhaps, state that I have been discussing field-grown roses only, since greenhouse-grown roses must, if planted at all, be planted in the spring or early summer.

Rose Understocks at Arlington Farm

By GUY E. YERKES, Bureau of Plant Industry, Department of Agriculture, Washington, D. C.

EDITOR'S NOTE.—Taking into account the dominance in American rose-growing of the budded plant, the question of understocks is of very great importance. The report Mr. Yerkes gives of the careful and impartial trials conducted at Arlington is of great value.

EXPERIMENTS with understocks for garden Hybrid Teas by the Bureau of Plant Industry, at Arlington Farm, across the Potomac from Washington, though not complete, have progressed far enough to bring out some of the characteristics of several stocks. For these tests, some well-known Hybrid Teas were selected, each to be budded on the different stocks and then grown in the open ground under comparable conditions. One plot of about five hundred plants was set out in the autumn of 1924. The plants on the several stocks had been propagated by field-budding and grown in the nursery under as nearly uniform conditions as could be given them. When transplanted to the test-plot, the tops had one season's growth from the bud. Own-root plants included in the plot were from summer-rooted cuttings established in pots, kept in a cool greenhouse the first winter, and then grown in the open nursery the next season. A second plot of about nine hundred plants was set out in the spring of 1926.

The soil in the test-plots is clay loam. In preparing it, the plow was run about 9 inches deep and was followed in each furrow by a subsoiler which broke the lower soil about 1 foot deeper. The plants were spread 3.3 feet each way. As soon as planted, soil was drawn up around the stems to a height of 6 to 8 inches; then a mulch of rotted stable manure was put on.

The advantage of autumn planting was noticeable in this plot. Only 12 plants failed, out of more than 500 planted in autumn. Plants from the same lot, kept over winter and set out in the spring, were not only slower in starting growth but 15 per cent failed to grow. No summer pruning was done.

During summer the foliage was kept almost free from leaf-diseases by seven applications of 4–4–50 Bordeaux mixture, to which fish-oil soap was added at the rate of 1 pound to 50 gallons.

The first spray was applied early in May when the new growth was about 8 inches long. Later applications were made at intervals of fifteen to twenty days. Both in 1925 and 1926, most of the plants held nearly all their leaves until frozen in late November. Near-by plants not sprayed in early summer were more than half defoliated by black-spot in September.

Besides the own-root plants, the following stocks are represented in the test plots: Four forms of *Rosa multiflora*—Japonica, Chenault No. 5892, Polyantha, and Cathayensis; *R. odorata* S. P. I. 22449; Manetti, Dutch Rugosa, Texas canina (multiflora × chinensis), Ragged Robin (Gloire des Rosomanes), Mme. Plantier, *R. rubrifolia*, *R. setigera*, and *R. coriifolia*. It was intended to have all the varieties budded on all the stocks, but in some cases no plants were secured, hence some combinations are missing. Besides these experiments, Mr. Mulford, who is in charge of rose variety tests in the Bureau of Plant Industry, is making tests with a larger number of varieties on fewer stocks.

The average number of flowers produced in 1926 by each plant of eight varieties is presented in tabular form on page 49. The varieties are named at the head of the columns, and under them the stocks on which they were worked are arranged according to the number of flowers, as indicated by the column on the left. It will be noticed that a considerable spread is shown in the number of flowers of the same variety on the different stocks, also that the relative position of the same stocks is not consistent for different varieties.

The forms of *R. multiflora* rank high for Radiance, Ophelia, Mrs. Wakefield Christie-Miller, White Killarney, Columbia, La Tosca, and Killarney. For Mme. Caroline Testout, *R. odorata* stands far ahead.

With respect to the own-root plants, which rank rather low for some varieties, it should be said that the plants grown as described previously were a little smaller at the time of transplanting than many of the budded ones. In 1925 their production was relatively smaller than in 1926. As they are gaining, many of them may be near the top within a year or two.*

*Seemingly these own-root plants were not the ordinary commercial grade, but plants that had had an additional year in the open ground before planting out.—Editor.

HYBRID TEA ROSES BUDDED ON DIFFERENT STOCKS AND OWN-ROOT PLANTS AT ARLINGTON FARM, SEASON 1926

Average Number of Flowers per Plant, Second Season after Transplanting.
(Transplanted December, 1924)

Abbreviations: M. 5892, Multiflora chinensis 5892; O. R., Own-root; Man., Manetti; Set., Setigera; M. Plan., Mme. Plantier; Rug., Rugosa; Cor., Coriifolia; M. Cat., Multiflora Cathayensis; Mult., Multiflora japonica; Rub., Rubrifolia; T. C., Texas Canina; Odor., Odorata; R. R., Ragged Robin; and M. Pol., Multiflora Polyantha.

No. of Flowers	Radiance	La Tosca	Ophelia	Caroline Testout	Mrs. W. C. Miller	White Killarney	Columbia	Killarney
Over 200	M. 5892	M. 5892						
200								
195								
190		O. R.						
185		Man.						
		Set.						
180								
175	Mult.	M. Plan.						
170		M.Pol.						
		Rug.						
165	M. Plan.							
160	R. R.		Mult.		Mult.			
155								
150		Cor.		Odor.				
145	M. Cat.	M. Cat.			Rug.	Mult.		
140	Man.				M. 5892	Man.		
135		Mult.	M. Cat.					
130		Rub.	Odor.					
125			M. Pol.					
120		T. C.	Man.	M. 5892		M. Plan.		
115	Rub.				Odor.			
110	O. R.		Cor.					
105			O. R.			Set.		
			M. 5892					
100			Rug.		Man.	M. Cat.		
			Set.					
95				Rug.		M. Pol.	M. 5892	
				Mult.				
90				M. Pol.		Cor.		
				R. R.				
85				O. R.		M. 5892	Set.	
80				Rub.	O. R.			Mult.
75				M. Cat.	M. Pol.	T. C.	Mult.	Man.
70				Cor.				M. Plan.
				Set.				Odor.
65				M. Plan.	M. Cat.		M. Plan.	Rug.
60				Man.		Rug.	Cor.	M. 5892
								M. Cat.
55				T. C.			O. R.	Cor.
50							Man.	

Other characteristics besides the number of flowers produced are also highly important in appraising the different stocks.

Many of the most vigorous plants in the test-plots are on Multiflora. Of the four forms of this species tried, only one has proved as desirable as the well-known Japanese Multiflora. This one was introduced from central China by Vilmorin and received in the Van Fleet rose collection in 1918 under Chenault's number, 5892. The exceptional vigor and stocky growth

of the original plant in the sandy soil at Bell suggested its trial as a stock. It is as readily grown from seed as the Japanese Multiflora, and is also easily increased from hardwood cuttings. During the past three seasons, both in the nursery and in the test-plots, the plants on this form have been a little more vigorous than those on Japanese Multiflora. It rarely sprouts from the roots or stem below the union. Its thorns are troublesome. In spite of this, it seems worth trial elsewhere.

Rosa multiflora cathayensis has also produced especially vigorous plants, but it persistently sends out sprouts from the main root below the union. The same serious defect is common with seedlings of the Baby Rambler type, *R. multiflora polyantha.* Japanese Multiflora, on the other hand, has very seldom sent up any growth from below if the buds were placed on root tissue just below the crown.

Manetti* has been the most widely used of any stock in this country, hence its qualities are well known. It has often sent up shoots from below the union if the cuttings were not disbudded when they were made, an operation that adds a good deal to the labor cost. As it grows here, the root system is rather shallow, and in the nursery its growth has often been checked during dry weather, so that budding could be done during only a comparatively short period. Its roots have always been free from nematodes here. This is a point of more importance farther south than in the North.

Odorata, best known as *R. odorata* S. P. I. 22449†, besides being one of the easiest roses to root from cuttings, also makes vigorous and continuous growth. Most of the Hybrid Teas tried on it have done well. In the nursery the past summer Souvenir de Claudius Pernet and Los Angeles were exceptionally vigorous on it. It is not as hardy as Manetti or Multiflora, but

*"Manetti" is a form of *R. chinensis* "raised from the seed by Signor Manetti of the Botanic Garden, Monza, Italy, and was introduced into England by Signor Crevelli, who recommended it as a stock to Mr. Rivers about 1835," as reported in Pemberton's "Roses." It is largely grown in Europe, Holland particularly, and immense quantities are imported into America.—*Editor.*

†This form of Odorata was first fully reported in the 1919 Annual, by Peter Bisset as having been sent to America by the late F. N. Meyer, a famous plant-investigator for the Department of Agriculture, who found it as "a climbing or pillar rose. . . . in a garden at Pautung Fu, Chihli province. . . . it produces small, double, white flowers with pale pink center." It has been found to be identical with a stock used by the late Henry Bennett of England about 1879 for his then new Hybrid Teas as exported to Australia. On page 150 will be noted a correct recognition of this rose in China, where its name is "Fun Jwan Lo" as reported by Prof. Hancock.

has stood several degrees below zero with little injury to the twigs. When field-budded, some injury in the bark around the dormant buds, due to the action of frost, has often been experienced here. Specimens from southern nurseries under the name of Texas Wax could not be distinguished from this Odorata.

The rose called "Texas Canina" and "Southern Canina," used as a stock in the South, has been identified as a hybrid of *Rosa multiflora* with *R. chinensis*. It is easily grown from cuttings and is readily budded, but the resulting plants have not been as vigorous or productive here as those on other stocks.

Ragged Robin* (Gloire des Rosomanes) has given trouble in the nursery here through failure of the cuttings to root, and black-spot has been destructive to the young plants. On the other hand, western-grown plants on this stock, received in the very dry spring of 1925, withstood transplanting without loss. Mrs. Aaron Ward, Mme. Edouard Herriot, and Los Angeles on it have made noticeably strong growth both in 1925 and 1926.

R. rugosa, though possessing several very desirable qualities, should be disqualified as a stock for bush roses on account of its persistent suckers. These suckers arise from stolons or underground stems; hence no lasting benefit is derived from "eyeing" the cuttings. Experience with roses on this stock has, no doubt, caused many people to condemn all budded roses. This suckering is, of course, less objectionable for tree or standard roses.

R. cinnamomea has the same type of root as *R. rugosa*, and is equally objectionable.

On Mme. Plantier, the bushes have been moderately vigorous, both in the clay soil at Arlington Farm and in the sandy soil at Bell. It is hard to propagate from cuttings, at least under our conditions. It may be a more suitable stock farther south if the cuttings can be rooted easily there. It is one of the few stocks on which nematodes have not been found here.

R. rubrifolia was suggested as a stock by the late Dr. Walter Van Fleet after trial in the sandy soil at Bell with Red-Letter Day and Paul's Scarlet Climber worked on it. Tried at Arlington Farm for other varieties, it has proved disappointing. In

*This Gloire des Rosomanes, so much used in California, is a variety raised as a China or Bourbon rose in 1825 by Vibert, and which, in 1853, became the seed parent of the yet famous Gen. Jacqueminot.

the nursery, the plants lose their leaves in midsummer and it has a noticeable dwarfing effect.

R. setigera has several good qualities. The seedlings are easily grown and are vigorous. It grows exceptionally well in sandy soil as well as in clay loam. Several varieties made very good plants on it. The roots are well branched, with many fibrous roots, which make it transplant well. Against these good qualities it is rather hard to bud by reason of its thin, tender bark and thorny stems.

R. coriifolia is similar to *R. laxa.** Its seed germinates well, and the seedlings are especially easy to handle in the nursery. The buds of all the varieties tried on it have given good stands if budded before midsummer. In late summer it has a period of inactivity. The plants budded on it have not averaged as large as those on several of the others.

Several stocks acquired within the last year or two are being propagated for trial. One of the best looking of these is a form closely related to *R. canina*, probably *R. dumetorum*. The twenty-two varieties of Hybrid Teas budded on it in 1925 have all made exceptionally strong plants. It is nearly free from thorns at the stage of growth when budding is done. Almost a full stand of buds was secured from all the varieties except Gruss an Teplitz. The roots are well branched and go deep. Unlike *R. canina*, it has, so far, shown no tendency to sprout from the roots. Hardwood cuttings rooted last spring gave nearly the same percentage of plants as Manetti. Seed, like that of *R. canina*, usually does not germinate until the second season.

Several forms of *R. canina* received from Germany in 1926 look promising, especially Broog's Thornless Canina.

The new rose, I X L, introduced as a stock rose is being watched with interest. Perhaps forms bred especially for stocks may yet bring about more improvement than any selections of species or varieties now in existence.

*Laxa, introduced into England in 1803, is much used there as a stock.—Editor.

Rose-Breeding in Theory and Practice

EDITORIAL PREFACE

FROM its first issue, in 1916, The American Rose Annual has presented all available information on the making of new roses, properly called hybridization. Dr. Van Fleet's articles in the Annuals for 1916, 1917, 1918, 1919, 1920, and 1921 were literally "news from the rose firing-line," and the superb results of his knowledge and genius are in evidence. Other able rosarians and plantsmen have written for succeeding Annuals, giving both theory and detail as follows:

In this Annual there follows the last word of biological science, as well as the current hybridizing and seed-germinating practice.

ROSE-BREEDING IN PREVIOUS ANNUALS

1916—Vol. 1. Rose-Breeding. By Prof. E. A. White (p. 24).
Possibilities in the Production of American Garden Roses. By Dr. W. Van Fleet (p. 27).
Father Schoener's Endeavors. By Jesse A. Currey (p. 41).
1917—Vol. 2. On the 1916 Rose Firing-Line. By Dr. W. Van Fleet (p. 41).
1918—Vol. 3. Methods of Rose-Breeding. By Prof. E. A. White (p. 51).
1919—Vol. 4. Rose-Breeding Notes for 1918. By Dr. W. Van Fleet (p. 29).
1920—Vol. 5. Rose-Breeding Notes for 1919. By Dr. W. Van Fleet (p. 23).
1921—Vol. 6. Rose-Breeding in 1920 at Bell Experiment Plot. By Dr. W. Van Fleet (p. 25).
1922—Vol. 7. What New Roses Does America Need? Editorial (p. 23).
1923—Vol. 8. Who Will Make New Garden Roses Worth While? By Robert Pyle and J. Horace McFarland (p. 19).
1924—Vol. 9. Budding and Breeding Work for the Rose Amateur. By J. H. Nicolas (p. 37).
What Roses Does America Need? By E. H. Wilson (p. 23).
Continuing Dr. Van Fleet's Work. By L. C. Corbett (p. 27).
Rose Hybridization for Amateurs. By Martin Bilon (p. 29).
Breeding Hardy Roses for Northeastern America. By A. C. Fraser (p. 33).
Securing New Hardy Garden Roses. By Otto Greef (p. 42).
The Story of the Gigantea Hybrids. By Alister Clark (p. 121).
1925—Vol. 10. Who Will Carry On? By J. H. Nicolas (p. 59).
Quick Germination of Rose Seeds. By A. C. Fraser (p. 63).
1926—Vol. 11. After-Ripening and Germination of Rose Seeds. By William Crocker (p. 34).
Notes on the Breeding of Roses. By A. C. Fraser (p. 38).
Carrying on Dr. Van Fleet's Work. By B. Y. Morrison (p. 41).

Chromosomes and Their Relation to Rose Problems

By KATHLEEN B. BLACKBURN, D.Sc., F. L. S., University of Durham, Newcastle-upon-Tyne, England

EDITOR'S NOTE.—What Dr. Blackburn, a distinguished English biologist, has written for us opens to the hybridizer definite knowledge, and while this knowledge by no means makes hybridization merely merchanical, it provides a basis of intelligence for the fascinating effort. To make understanding easier, several definitions are here provided.

A *chromosome* is "one of the small bodies . . . occurring in the cells of a given species . . . into which the chromatin of a cell nucleus resolves itself previous to the . . . division of the cell." *Chromatin* "is regarded by many as the physical basis of heredity."

Cytology is defined in Webster as "The branch of biology treating of cells with reference to their structure, functions, multiplication, and life history. Cytology deals with the individual cell and its intrinsic character and functions."

It is proper to point out the fact that the science of genetics is advancing rapidly, and that no one can safely assume to have more than begun to get at nature's laws. Very great credit is due to such students as Dr. Blackburn, who open for us new doors of knowledge and endeavor. The advance since the publication of the Mendelian theory, barely a quarter of a century ago, and the great attention now being given, mean much to mankind.

MODERN work in scientific breeding points more and more to the necessity of an all-round knowledge of the plant or animal to be bred. An important aspect of the subject is the minute structure of the cells of the organism, in other words, a study of its cytology. The genus Rosa has received considerable attention, and a summary of the most important results may be of interest.

Plant-breeding and cytology have become more closely linked since it has been shown that the inheritance of certain types of characters is directly due to certain bodies, called *chromosomes*,* to be found in the nucleus of the cells of which the organism is made up. Every new organism is produced by the fusion of two germ-cells. In flowering plants these consist of a female cell, or egg, and a male cell, and the latter reaches the egg from the pollen grain via the pollen-tube extending through the pistil. The fusion of the egg with the male cell gives rise directly to the new individual which begins its development at once within the ovule, producing the embryo in the seed. Since the

*The name "chromosome," is given to them because they readily take up aniline dyes and so are easily seen, with the aid of the microscope, in the semi-transparent protoplasm.

male cell is the chief product of the pollen grain, it is simpler to speak of the pollen grain as the male element, but this is not strictly accurate.

At fertilization, each of the fusing nuclei contains a definite and normally equal number of chromosomes; for instance *Rosa arvensis* has 7. The fusion cell, which by constant division produces the new individual, must therefore have 14 chromosomes in its nucleus, and, since a nucleus always divides into completely equal halves, all the cells of the plant of *R. arvensis* will have 14 chromosomes. In more general terms, the individual always contains an even number of chromosomes, half of them provided by each parent.

We must now consider how it comes about that the germ cells have only half the number of chromosomes of the organism producing them, this halving being an obvious necessity if the number-characteristic of the species is to be kept up. When a nucleus divides in the ordinary way, each chromosome splits exactly into half and the halves grow to the original size ready for the next division; but, in the formation of the reproductive cells at a certain division called the *reduction division* a different process takes place. To understand what happens it is necessary to realize that the chromosomes from each parent are not only definite in number but each has an individuality and sometimes a shape of its own. Thus, one chromosome might be responsible for flower-color, another for leaf-shape, and so on. Each parent then supplies a corresponding set, but there may be a difference between the flower-color carried by the same chromosome from the two parents, as, for instance, one may be white and the other pink.

At the reduction division the corresponding chromosomes come together in pairs, and half of each pair, instead of half of each chromosome, as on the ordinary divisions, goes to each daughter nucleus. The number of chromosomes is thus halved, and since the units of each pair separate at random, each germ-cell so formed has a different assortment of hereditary characters to pass on to the next generation.

It is this which makes the reduction division so important from the point of view of heredity, giving rise to the Mendelian laws. If the results predicted by these laws do not occur, an in-

spection of the reduction division of the organism in question may reveal an explanation. This is particularly true in some roses, as is shown by the results described below.

The number 7 has been cited as characteristic of the germ-cells of *Rosa arvensis* and the same is true of *R. rugosa*, *R. sericea*, and a number of other species, but this condition is not by any means universal in the genus—*R. pimpinellifolia* and *R. lucida* have twice that number; *R. nutkana* and *R. acicularis* three times, and a race of *R. acicularis* has been described with four times that number in its pollen. A series like this is referred to as a *polyploid* series, and the different types are named after the number of times the base number is to be found in the ordinary cells of the plant. These roses are thus diploid, tetraploid, hexaploid, and octoploid respectively. Similar series are found in other genera, as, for example, chrysanthemum, which has a base number of 9 and its series goes up to the decaploid with 45 chromosomes in its germ-cells.

The species described above each have a regular chromosome cycle with the number of chromosomes characteristic of the species, but should a diploid be crossed with a tetraploid species, difficulties arise. I have, for instance, a hybrid between *R. lucida* and *R. rugosa;* the *R. lucida* ovule will have had an egg with 14 chromosomes, whereas the pollen could only supply 7. The hybrid plant has 21 chromosomes and is therefore a triploid. Such a plant as this may not show any obvious peculiarity till the time of the reduction division. Then the 7 Rugosa chromosomes pair with 7 of the Lucida ones, but the other 7 are left over without partners, thus causing an abnormality in the division. A reduction division of this type is liable to produce sterility, owing to the presence of the chromosomes left over without partners which interfere with the production of good pollen and fertile eggs.

A hybrid such as *R. pendulina* × *R. pimpinellifolia* is much more likely to be fertile, since a normal reduction division is possible, each parent having supplied the same 14 chromosomes.

An examination of the Caninæ section of the European roses shows peculiarities which may explain many of the breeding results that have troubled rose-growers. The chromosome number of the plants of this section may be 28, 35, or 42, but

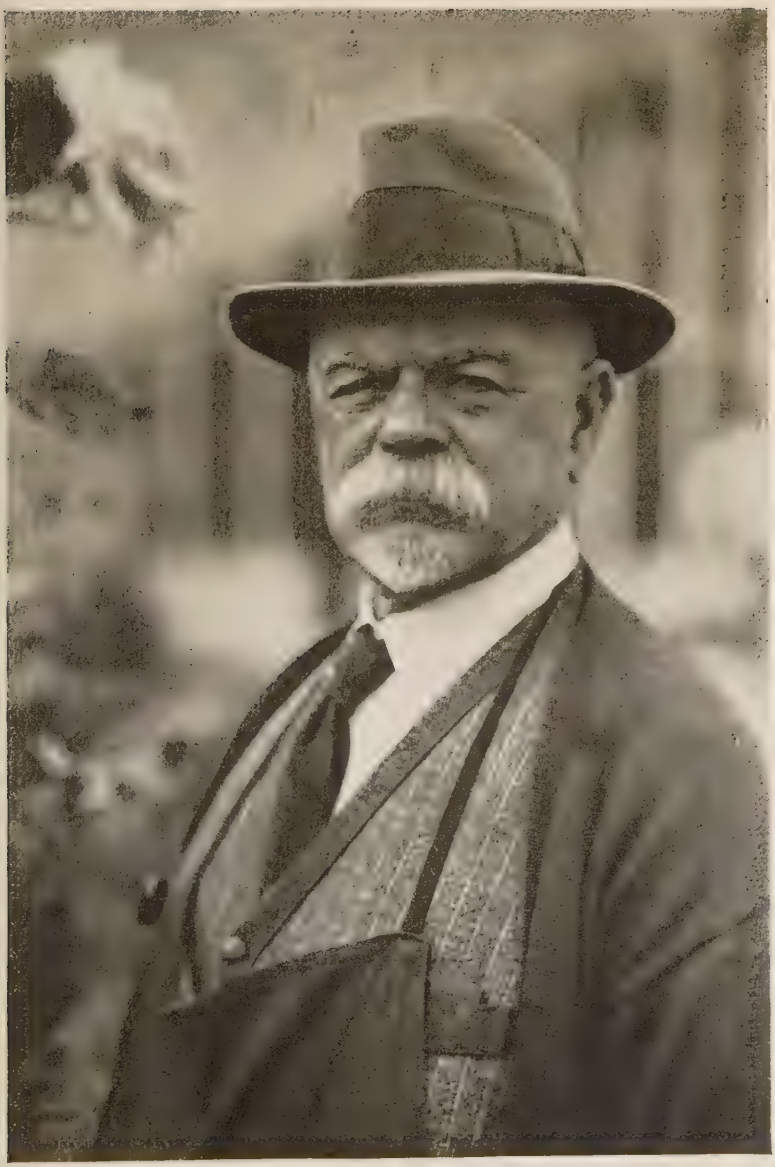

PLATE VIII. ALEXANDER MONTGOMERY, of Hadley, Mass.

Mr. Montgomery is the hybridizer who has produced Hadley, Commonwealth, Crusader, Pilgrim, Templar, and other important roses

PLATE IX

Above, Her Majesty, the Queen of Roumania, on the rear platform of her train at Tacoma, Wash., and a basket of the rose named for her. Below, a portion of the Fall Rose Show at Tacoma. (See page 200.)

in each case at the reduction division only 7 pairs of chromosomes are to be found, the rest have failed to find partners. This is exactly comparable with the condition described above for the hybrid of *R. lucida* × *R. rugosa*.

Thus, although the plants belong to apparently definite species, the cytological examination reveals them as hybrids. We can only assume them to be ancient hybrids, and then try to find out why they are so fertile when as hybrids of this type one might expect to find a high degree of sterility. It appears that since their origin, probably in the ice-age, some sort of a balance has been set up to enable them to propagate their kind.

If the top of the flower is cut off carefully with a razor while it is still in bud, it is possible effectively to prevent pollination, and yet in the majority of cases seed is set. The plant is therefore shown to be able to produce seed without fertilization, a process described as *apomixis*. On the other hand, as hybrids are known between the species, it follows that sexual fusion must, at least, be possible.

Dr. Harrison and I have examined the cytology of a hybrid—*R. coriifolia* × *R. lutetiana*—and we found that its chromosome behavior is exactly that of its parents: it has 35 chromosomes, of which only 14 pair at the reduction division. The explanation of this unexpected condition is as follows: in the egg-cell all the unpaired chromosomes are retained, in addition to 7 of the paired ones, whereas in the pollen on the other hand, the fertile grains tend to be those which have lost all the unpaired chromosomes and have therefore only 7. Fertilization thus gives exactly the same total as in the parents, i. e., 35.

That occasionally pollen with more than 7 chromosomes may be fertile is shown by the hybrids described by Täckholm with a chromosome number not divisible by 7, but this is evidently very unusual, since neither Dr. Hurst nor Dr. Harrison and myself have ever observed such cases.

Yet another method by which a hybrid may become fertile is illustrated by the hybrid *R. wilsoni*. This rose is a natural cross between *R. pimpinellifolia* as female and *R. tomentosa* as male. The former will have provided 14 chromosomes and the latter 7, as described for the Canineæ roses above, or in all, a total of 21 chromosomes. As this is a recent cross it might be

expected to be almost completely sterile, as is the reciprocal hybrid *R. Sabini*. However, when we came to examine it we found instead 42 chromosomes and almost complete fertility, accompanied by none of the chromosome abnormalities characteristic of a hybrid. In a word, the chromosomes had in some way doubled, and in doing so produced two completely corresponding sets of chromosomes. This circumstance is responsible for the normal reduction division and accompanying fertility.

By way of summary let us review the chromosome conditions in the different sections of the genus *Rosa*.

In the Systylæ, to which belong *R. arvensis*, *R. multiflora*, *R. wichuraiana*, etc., a diploid condition with 7 chromosomes in the germ-cells seems universal; *R. sericea* also is diploid, whereas *R. chinensis* may be either diploid or tetraploid, according to the variety. The Cinnamomeæ, including the American Caroline æ, are chiefly either diploid or tetraploid, but the higher chromosomed normal forms *R. nutkana* and *R. acicularis* also belong to this group.

In the Pimpinellifoliæ, *R. hugonis* and *R. ecæ* are diploid, while *R. pimpinellifolia* itself is tetraploid. The Luteæ and the Gallicæ, where not obvious hybrids, are also tetraploids. The Canineæ section stands alone in showing throughout obvious traces of a hybrid origin though the expected sterility has been largely overcome by the occurrence of apomixis. The actual chromosome number varies, being 28, 35, or 42, according to the species, but in all cases there are only 7 pairs at the reduction division.

Through consideration of this account of the chromosome number and behavior in the genus *Rosa*, the experienced breeder may perhaps find some indications as to where to look for fertile crosses, but on the other hand, he would be a bold man who attempted to say definitely from this evidence that a hybrid would not be fertile, since the rose apparently possesses a remarkable ability for getting out of a tight corner.

Mendelian Principles and Rose Hybridization

By J. H. NICOLAS, West Grove, Pa., Honorary Life Member
Société Nationale d' Horticulture of France

EDITOR'S NOTE.—Mr. Nicolas has here condensed into a terse statement his understanding of the scientific basis of heredity as applied to roses. The Editor is aware that there is constant advance in the science of genetics, and that there easily may be disagreement with Mr. Nicolas' point of view. For himself, after reading a thoughtful criticism of Mr. Nicolas' paper, he is reminded of a lecturer who was endeavoring to explain to an astute German professor his view of the spirit underlying the Oberammergau Passion Play. "It is a very difficult subject," said the professor, "and you have added to the difficulty."

HYBRIDIZATION is more than the mere mechanical process of crossing two varieties. It is first necessary to understand the laws governing heredity, and then after a study of the genetic nature of many rose species and varieties, to select the parents that are likely, according to those laws, to bring about the results sought for. Anyone doing hybridizing intelligently will want an ideal.

The laws of heredity are often referred to as Mendel's Laws, because they were first demonstrated by an Austrian monk, Gregor Mendel, at Brünn, Austria, in 1865. Though published in 1866 in the proceedings of the Natural History Society that first heard them, they failed of attention until, after Mendel's death in 1882, three independently working scientists—De Vries of Holland, Tschermak of Austria, and Correns of Germany—rediscovered in 1900 Mendel's principles and his report. An English biologist, Dr. William Bateson, translated and published the report, which has gone into several editions. The Harvard University Press has also recently published a translation, and it may be had for 25 cents from that Press, at Cambridge, Mass. There are many other publications on this vital subject, based on Mendel's researches.

It would not be here in point to explain the whole Mendelian theory, but, with the help of Dr. Bateson's book, "Mendel's Principles of Heredity" and my own experiments, I will outline it briefly.

Before we can plunge in the science of plant heredity, a few terms need to be understood. F_1, F_2, F_3, etc., indicate the generations issuing from a single cross: F_1, the first generation or

plants resulting from hand-crossed seeds; F_2, the second generation from natural or "self" seeds (not hybridized) of F_1; F_3, the third generation, from self seeds of F_2; etc. *Gametes* are the single generative cells, either male or female; and *zygote* is the ovum or egg fertilized by the union of two gametes of different sexes. It is either a *homozygote* or a *heterozygote;* the former when both gametes have the same characters, thus reproducing a plant identical to its parents, which can only happen when the two sexes of the same plant mate. When a type is fixed, meaning when the natural or self seeds do not show further variation, the hybrid is termed *homozygous.* Thus, pure species, or so-called "wild flowers" are often, if not always, homozygous.

A heterozygote results from the union of two cells possessing different characters, which may appear in a greater or lesser degree in the progeny (or hybrid), and a plant is *heterozygous* as long as its seeds show variations in further generations. Salient characters of the parents appear in the progeny as *dominant;* those that are not visible, but which may be present in the gametes are *recessive.* For example, the cross of a climbing with a dwarf rose will produce hybrids, some of which may be climbers some dwarfs, and some neither climbing nor dwarf, but bushy; the climbing character is dominant in the climbers, recessive in the dwarfs, and the bushy hybrids will be called *intermediate.* The self seeds of that generation may reverse the characters, the climbers producing some dwarfs and the dwarfs climbers; the intermediates may revert to either the climbing or dwarf form. But if two seedlings of that generation with the same characters are crossed, that particular character may become fixed and the variety is then homozygous as to that character, although it may remain heterozygous in other characters (bloom, color, foliage, etc.) of its parents or ancestors, since those factors have not yet been entirely dissociated.

The first generation is most often an incomplete mixture in which neither dominance nor recessiveness may be strikingly apparent, but with F_2 the segregation process begins, and the ratio of 25–50–25 asserts itself, which means 25 per cent pure dominant, 50 per cent intermediate, and 25 per cent pure recessive, and the same ratio will be maintained if the self seeds of the intermediates of each generation are planted.

The same thing happens as to pigmentation of the flower: Crossing a white primrose (*Primula sinensis*) with a dark red variety, the plants of F_1 are usually uniform and mostly intermediate; the petals are whitish with a slight tinge of magenta. By the self-fertilization of these F_1 plants, a very complex F_2 series is produced, and the ratio 25–50–25 appears strongly. The color types, although of a wide range, are in four classes: (1) pure white, (2) tinged white, (3) crimson-reds, (4) magenta-reds. F_3 seedlings of these F_2 hybrids show further variations.

I have two instances in roses where the F_1 result has been the same as with primula: *R. blanda alba* × *R. willmottiæ* and *R. altaica* × *R. moyesi*. Blooms of both are whitish with a slight suffusion of magenta, and I am impatiently waiting for the F_2 blooms, which I expect to cover a wide range of tints. In pigmentation, white is dominant in F_1 over all colors, and the next in power is pink. The whole pigmentation is not always apparent in the bloom, but sometimes lurks in other parts of the plant, ready to come up to surprise the hybridizer. It is well, therefore, in the selection of parents, to study the coloration of the wood and foliage, and the effect of the sun thereon. It has been proved that a red flower may result from crossing two white ones. Very recent progress in plant-genetics shows more and more the possibilities in the progeny of a single cross between two well-selected parents if carried forward several generations, with occasional recombinations of pre-existing factors. Now, quoting Bateson:

> From the Mendelian discovery, the practical breeder learns a lesson of importance: that he must not discard the F_1 generation merely because it does not give him anything he wants. It may also be quite uninteresting from the horticultural standpoint, exhibiting some old-fashioned or reversionary type, but from the appearance and properties of F_1, no guess can be made as to the possibilities of F_2. A vast amount of valuable material has again and again been discarded by practical horticulturists through ignorance of Mendelian principles. The uninteresting types produced by crossing, though no improvement on the old and familiar varieties, would, if their seed had been saved, have given abundant novelties in the next generation.

The selection of parents is all-important, and it is here where the "sixth sense" of the hybridist reveals itself (as indeed it will later, when the F_2 seedlings are up for judgment). No variety should be used until it has been thoroughly tested and studied in its most intimate details. Major faults, such as unhealthy or

scanty foliage, lack or excess of vigor, bad habit of growth, badly formed bloom, deficient or excessive petalage, absence of perfume, should cause rejection of a variety as breeding-stock, unless it has also a transcendent redeeming quality worth transmitting; in which case the "roguing" of F_2 hybrids will have to be more rigid.

It is conceded that the female parent (seed-bearer) will influence the plant and the male (pollen) the flower, but there is no conclusive evidence to support this, and Mendel does not mention it. In selecting a female plant, one has to be guided by its compatibility to foreign pollen and its ability to bear good seeds; many varieties are totally sterile, or fertile with their own pollen only, or again with one of their own parents' pollen only.

I had prepared a careful statement of the mechanical process of hybridization, but the Editor informs me that he is printing instead M. Pernet-Ducher's details of operation which I have translated for him, and to which the reader is referred.

An important part of the breeding operations is the Record: Those of us who are in close touch with the posthumous hybrids of Dr. Van Fleet, who left incomplete records, realize how important it is to keep accurate, permanent pedigree data. We, the artisans, may perhaps recall the pedigree, or identify the blood of our own hybrids; but we may leave our work unfinished, and it is very difficult and merely guesswork for others who come after, no matter how well versed in roses they may be. Even the pedigree of American Pillar, Dr. Van Fleet's greatest production, is a puzzle.

For my own purposes I have developed the following system of record and identification:

At the time of crossing, I attach to the pollenized hip a celluloid tag, with the pollen name and date. When harvesting, I use small manila envelopes to put the hips in with the original tag, marking each envelope with the name of the mother plant and date. As the seeds are being planted, each combination is given a serial number, the first set of figures indicating the year; the second, the number of the combination; and a zero (26–10, 26–20, 26–30, etc.). The quantity of seeds of each cross and date of planting are also recorded. When the seeds grow and are transferred to individual pots, they are marked with the original numbers, but the zero is changed to 1, 2, 3, etc., for instance the seeds of 26–30 become seedlings 26–31, 26–32, 26–33, etc. and if more than 9, then 26–39A, 26–39B, etc. We always know, then and forever, that 26–31 to 40 are seedlings of the combination 3 of the year 1926. All the data on the envelopes and tags are transferred to a book for permanent keeping and reference.

Artificial Fertilization in the Production of New Roses

By J. PERNET-DUCHER, Vice-President of La Société Française des Rosiéristes, Lyons, France

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ARTIFICIAL fertilization of roses is indispensable for the creation of new varieties with characters clearly different from their predecessors, and especially if one wishes to create a new race by hybridizing two other races.

First I must point out that the rose has in the same flower two different organs: the male, called "stamens," sometimes hidden among petals, and the female known as the "pistil," in the center of the blooms.

A rose may be self-fertilized by the conjunction, accidental or otherwise, of these two organs. Wind and bees, I believe, have no influence on the fecundation of roses, which generally takes place before the bloom is completely open.

Very double roses seldom give seeds without artificial fertilization because the stamens are few and so crowded by petals that they are unable to reach the pistil.

When and How to Operate. The temperature must be not below 70° F. on a day of low humidity, which makes it necessary to operate under glass in rainy and humid regions. Even in the climate of Lyons, work under glass gives better results, and seeds germinate better than in the open.

The temperature being favorable, the first care must be in preparing the pollen. The blooms must be picked when half open and before being touched by the sun. This applies to the varieties which we intend to use as the male or pollen parent. The petals must be pulled off one by one until nothing is left but the stamens. I cut these stamens off and gather them in a little saucer, leaving them to dry in the shade in a rather warm room until no moisture is left in them. It is easy to discover this by a light touch of the finger. When the stamens are dry, there will be found in the saucer a fine reddish yellow dust. This is the pollen which, as soon as it is ready, must be inclosed in an air-tight container. A very fine camel's hair brush is used to transfer it to the pistil of the rose chosen for the mother.

Preparation of the Blooms to be Hybridized. It is necessary to perform this operation immediately after sunrise for the following reasons: If the sun-rays touch the rose, they ripen the pollen, which drops on the nearby pistil; the fertilization is then self-operated and intervention is useless. For the same reason, if there is delay in picking roses to furnish pollen, you will have nothing but stamens; the pollen will have escaped.

I hold the flower, ready to open, or half-open, between the thumb and index finger of my left hand. This is to avoid breaking the pedicel. With the right hand I pull off all the petals and cut off all the sepals, keeping only the calyx of the rose, from which I remove all the stamens with a penknife, carefully avoiding injury to the pistil. (The stamens of this flower may be preserved and used as male for another variety.) It is important that this be done very early in the morning.

About 12 o'clock, I go among the prepared roses with pollen-boxes and a little brush. I impregnate the pistils with the pollen and immediately cover the blooms thus fecundated with little paper bags, tying them so that they will not blow off.

In the Lyons district, fertilization must be done not later than July 10. After that date, the seeds will not ripen.

Choice of Seed-bearing Blooms. There is no rule governing the selecting of seed-bearing varieties; it is a matter of the inspiration of the operator. A rose my be chosen for color, form, perfume, or any other quality that one wishes to transmit, with improvement, to its progeny. Seed-bearing varieties should always be as vigorous and hardy as possible, and one must not reject off-hand varieties with single or semi-double flowers, as these generally give good results; but this does not mean that one should neglect double roses if they have perfect form.

Choice of Varieties to be Used as Pollen. It is generally admitted that the male parent has more influence on the color, although this is not always true; often the contrary happens, as I have observed. A rose of deficient petalage or even of defective form may be used, if it is desired to reproduce the color and improve the plant, and it is possible to obtain vigorous and hardy descendants by using pollen of a weak-growing or tender variety on roses having those qualities. One may use pollen of very beautiful roses when it is desired to improve their growing

habit or floriferousness. In such cases, to conserve a similar coloring, we must select, as seed-bearers, roses of similar color.

Artificial fecundation is necessary to create new colors and forms, and is useful to improve the vigor of older varieties.

When a new color appears, we see at once roses following of different shades within the same range. These come from seeds naturally obtained from the new varieties, but which would not have been possible without artificial fecundation at first.

I could name many such examples. After Lyon Rose, came Lady Mary Ward, Mrs. F. W. Vanderbilt, and Souvenir de George Beckwith, to name only a few. Soleil d'Or was soon followed by Juliet; Rayon d'Or gave us Christine, Mrs. Wemyss-Quin, Mrs. Arthur Johnson, etc.; after Constance, came Golden Emblem and The Queen Alexandra Rose.

The popular Mme. Edouard Herriot gave, either from sports or by fecundation, varieties like Independence Day, Severine, Emile Charles, Elvira Aramayo, Jean C. N. Forestier, etc.

Improvement of varieties of a given type is carried on by artificial fecundation. The type Hybrid Tea, for instance, which dates back about fifty years only, was at first descended from varieties many of which lacked vigor, and with colors which left much to be desired. The red roses of that time were of a violet tint; now we have beautiful red Hybrid Teas. This result is due to the raising of a seedling with a vivid red color, without value, perhaps, but which transmitted its color qualities.

The professional or amateur taking up artificial fecundation of roses must carefully search among his own productions, first, for varieties, single or semi-double, possessing vigor and good color, capable of being good seed-bearers; second, delicate varieties possessing a novel coloring; as these varieties, if their pollen is potent, could produce good roses in fertilizing vigorous sorts. At any rate, the operation is worth attempting. It often succeeded with me—at times in the second and third generation only.

Artificial fecundation of roses requires much patience and persistence, but it gives an indescribable pleasure to the adept. With what impatience we wait for the first blooms, and what joy rewards our perseverance when finally we obtain varieties really beautiful, of a color previously unknown!

Parents and Offspring

By CAPT. GEORGE C. THOMAS, Jr., Beverly Hills, Calif.

MY ROSE-BREEDING commenced in 1912. The purpose of my experiments was to produce a hardy, everblooming climber for the Philadelphia district in which I lived. An account of this work was given in the 1920 Rose Annual. Since that time, the hardy, everblooming climber breeding has been carried further and a number of such roses are in commerce, while other new kinds—some bred from the best of the first seedlings, and superior to them—will soon be available.

This breeding for the definite purpose of producing a new type of rose has taken fourteen years, and the result aimed at has been satisfactorily approached; the hardy everblooming climbing rose is an attainable, if not an accomplished fact. Hardiness and recurrent blooming have been secured, and the work now is to improve the blooms.

A process of elimination achieved this success. It was not found possible to choose two parents with the two characteristics to be combined, breed them, and secure the qualities desired, even with hundreds of seedlings from such a choice; otherwise a hardy climber, crossed with an everbloomer, should give the demanded results the first year.

It was found necessary to make many breeding experiments and to raise thousands of seedlings before any appeared which gave even partially the characteristics sought. It was a first requisite to discover seed parents which would mature seeds, and to germinate them. Furthermore, it was imperative to find pollen parents which were able to bestow their habit on their offspring. Many combinations produced nothing.

Having once found a cross which gave offspring with some of the qualities desired, it was easy to try its parents in other combinations, and also to use the new seedlings both as seed and pollen parents; but unfortunately, many of them would not ripen seed as seed-bearers while others gave but little pollen, or pollen which never produced seed, and some gave offspring with no pollen-parent qualities.

The everblooming climber development is easy to continue because the pioneer work is accomplished, and a fraction of the

effort to produce the first satisfactory crosses would now give many varieties of such roses.

In other experiments for producing Hybrid Teas of new kinds, the task has been much simpler, and it has been easier to produce results and to know what would happen from given crosses, because the same things recur. As an example, it was soon discovered that a pollen parent with a weak neck, in Hybrid Tea crosses, handed down such undesirable characteristics with painful regularity. Bloomfield Progress is a cross between Mary, Countess of Ilchester and General MacArthur, and the cross was made to get a rose with a stem and neck like the former and a bloom like the latter. The result was a good rose, a better bloomer than either parent, with a better neck than General MacArthur, though yet somewhat weak.

Ilchester crossed with Mme. Edouard Herriot gave a wonderful bloomer with marvelous color, in Bloomfield Beverly—a very fine decorative of lovely form, but with a miserable Herriot neck. A cross between Bloomfield Progress and Los Angeles gave a superior rose in every respect but the neck. The flower is a lovely coral-pink, with good growth and foliage, length of stem, blooming habit, individuality and better perfume than Los Angeles. Alas, the neck is not perfect!

This matter of stem and neck seems easy to provide for. The answer is to use a rose with a short, very strong neck as seed parent; and for the pollen parent to use a variety with a long and reasonably strong stem and neck—one with no greater weakness in neck than in stem. The result from such crosses gives a preponderance of seedlings with stems of reasonable length and good strength. My newer seedlings prove this rule.

Other crosses of two roses with perfect stems do not give such certain results. I use seed parents which I know, by trial, ripen and germinate seed and they must have short, very strong, thick stems with no weakness in the neck, if I want cutting roses. The stem proposition is reasonably sure. In growth I find the seed parents seem to supply the size, if they are seed parents which produce healthy offspring.

Parents which mildew, either seed- or pollen-, produce it in offspring; parents without mildew may also produce the evil.

Blooming, as Pemberton states, is "generally given by the

pollen parent"; but to be sure of the fact that the seedling is the result of the cross made, there must be some well-known characteristic of the pollen parent shown in the seedling.

My experiments do not prove Pemberton's theory that the seed parent gives form and shape to flowers. This theory does seem to prevail in such a seed parent as Ophelia, which gives its own long bud to its seedlings, while Grange Colombe does not so act, and, with my crosses, most of the seedlings vary widely in this respect.

Color seems a great uncertainty, except my crosses do not produce darker colors than the parents' average depth of color. For dark color, it seems necessary to have both parents dark.

Lack of fragrance seems to follow from a seed parent without fragrance, but one seedling may have it and another be without it from the same cross. Form is also a gamble. You can get a single from a double, or the opposite. However, these are findings from certain crosses. Other findings may occur from other crosses.

Summing it up, my choice of a seed parent for cutting roses requires good growth, good foliage, a short, strong stem and neck, perfume if possible, a long bud, and average petalage.

My pollen parent should have reasonable growth; good foliage, not a weak neck, at least average length and strength of stem, fragrance, a long bud, and average petalage, if obtainable.

To provide color required in seedlings, breed reds for seedling reds; light colors and reds for pinks; reds and yellows for orange-reds. From these combinations I get a percentage of what I want. For obtaining yellow roses, I admit I know nothing but I hope to give some data next year from many new crosses made for good yellows.

In this interesting effort, valuable seedlings never thought of may result. For example, Bloomfield Decoration, bred for a hardy everblooming climber in the Central East, is a wonderful, all-year blooming ground-cover in California.

Rose-breeding is a delightful game, the most fascinating thing in the rose world. It is a realm of unknown possibilities. My theories may prove all wrong, but they are at least better than guessing wildly, as I know from experience, having extensively tried both methods.

Handling Seeds and Seedlings

By ALLAN C. FRASER, Assistant Professor Department of Plant Breeding, Cornell University, Ithaca, N. Y.

EDITOR'S NOTE.—To a request from Australia for information on germinating rose seeds, Prof. Fraser replied so clearly that his permission was secured to print portions of his letter for general information.

IN HYBRIDIZING roses I have encountered, and only partially solved, a number of difficulties in connection with the germination of the seeds. Dr. William Crocker, of the Boyce-Thompson Institute, at Yonkers, N. Y., has spent many years in the study of seed-germination and seems to have devised fairly satisfactory methods of germinating rose seeds.

Dr. Crocker's investigations lead him to believe that it is necessary for rose seeds to have a temperature of approximately 41° F. over a period of from two to six months in order that they may germinate. It has been the experience of practical rose-growers that seeds will frequently have to be left out-of-doors for two winters, and sometimes for three to five years. Dr. Crocker assumes that the rose seeds get a certain amount of the cold treatment in one winter, but that the time at which they have been exposed to a temperature of 41° F. is not of sufficient duration to cause them to germinate. It is therefore necessary to add more days of exposure during a second, or even a third, winter. Investigations have shown that the rose seed is only partly mature at the time when the hip is fully ripe. The little embryo in the seed is immature and requires a period of so-called "after-ripening." This after-ripening is said to take place most rapidly at approximately 41° F.

I am treating the seeds which I get from my hybridization work in the following manner: They are allowed to remain on the plant until the hip is fully ripe; that is, deep red or orange or the color of the ripe fruit. The hips are then brought in and the seeds are picked out with a small-bladed knife. They are sown, as opportunity permits, in small petri dishes in a medium of "peat moss," a product which is imported from Europe. This "moss" is peaty-like in composition, holds moisture well, and seems to have a degree of acidity which favors germination. The substance is moistened to the point where it will not hold

any more water. The dishes are then placed in a root-cellar, in which the temperature remains remarkably constant at 40° F., until well along in the spring. With the coming of warmer weather, the dishes are removed to a refrigerator in which a mixture of salt and ice keeps the temperature at about the optimum. We find that the ice alone will not give us a temperature below 50° F. The dishes are examined every week, and germinating seeds are potted in small pots and brought along in the greenhouse until they are of sufficient size to be set in the field. The glass covers of the petri dishes make it possible to look at the seeds without opening the dishes, and it is an easy matter to examine a large number in a short time. I should question whether it was advisable for a rose-breeder who had to purchase all of his own equipment, to use the petri dishes as they are much more expensive than tin boxes.

The late Dr. Walter Van Fleet, one of our most successful hybridizers of outdoor roses, once told me that he used to keep his seed-pans for seven years before discarding them, and that seeds would keep germinating each year in many of the pans. I should, therefore, advise that seeds be not thrown out until there has been plenty of time in which they may sprout.

I believe that it does not matter whether the seeds are germinated in the dark or in the light, but that it is important that the seedlings have light as soon as possible after they emerge from the soil.

The problem of marking seedlings is, like the problem of the proper labeling of all plants, a difficult one. In my own work I use 4-inch labels with the young plants, taking care to replace these whenever necessary and before the writing on them has been obliterated. When the plants go into the field they are marked with a fairly heavy chestnut stake, to which has been fastened a number stamped in the so-called "zinc tape." When I planted the rose seed in boxes I used to set the seeds in rows and place the box or flat out-of-doors, covering the surface of the soil with wire netting of quarter-inch mesh to keep out the rodents. The labels were often broken off and scattered about in the spring, but I kept a "plan of planting," showing the location of each box and the relative positions of the different kinds of seed in each.

Rose-breeding is interesting work, but a bit discouraging at times because of the difficulties in germinating the seeds, the sterility of many plants, especially the hybrids, and the large proportion of worthless plants in any lot of seedlings. In spite of these difficulties, however, the game is a fascinating one.

Roses and Their Hybridization in Spain

By PEDRO DOT, San Feliu de Llobregat, Spain

I REPORTED in the 1926 Annual (page 51) that I had several seedlings from my La Giralda (Frau Karl Druschki × Mme. Edouard Herriot) × *R. moyesi*, which had not yet bloomed. I can now report with great satisfaction that one of these has flowered, and, furthermore, that it is remontant. This plant bloomed abundantly during the month of April, and its decorative branches grew vigorously up to the present time (October), giving a continuous scattering of bloom. The flowers are single, with eight petals, about 4 inches across; the inside is white, slightly flesh colored, with yellow base, the exterior carmine with yellow veins. Its fragrance is that of a peony, especially in cool weather. The plant is a vigorous shrub, with thick, plentiful foliage and the wood is almost thornless. I tried to hybridize it in all weather, but without success. Its hips, either hybridized or self-fertilized, dropped before maturity, but I did use its pollen successfully on other varieties, and the hips are now taking color.

I have observed that some varieties do not mature seeds with their own pollen, but give good results with foreign pollen; such a one is my variety, Mari Dot. On the other hand, some have great receptive and transmitting powers, such as Li Bures (Chateau de Clos Vougeot × Souvenir de Claudius Pernet), which is fertile, with a wide and varied range of pollen, and its own is very potent. I hybridized, at various times, the Moss rose, Mousseline, with pollen of Constance, Ville de Paris, Florence L. Izzard, Souvenir de Claudius Pernet, and Mari Dot, without any luck, but six blooms of Mousseline were hybridized at different times with Li Bures pollen which took, and the hips are now maturing nicely.

The unusual weather this year gave many surprises, such as the Banksians and several Wichuraianas in bloom in August, Persian Yellow in October, and a Nutkana, grafted last December, has bloomed for the first time in this October.

Because of excessive rains, I lost a great many young seedlings of last year's hybridization, but, and perhaps on account of their vigorous blood, I was able to save all my seedlings of Frau Karl Druschki × Blanche Moreau (I am trying for a *mossy*, perfumed Druschki; will I get it?) and La Giralda × Blanche Moreau, which are now very vigorous, although showing some mildew in wet weather. They have not bloomed yet. Among the other seedlings saved, a few are very interesting:

Mari Dot × Li Bures shows a flower of good form, of deep orange-coral with crimson flushings. Li Bures × Chateau de Clos Vougeot gives beautiful foliage, a vigorous plant, and very double flowers reminiscent of Mme. Edouard Herriot, but much deeper. Another seedling of the same cross is semi-double, of a very interesting orange color. O. Junyent × Mme. Edouard Herriot × Eugene Barbier has produced a beautiful rose of warm color. Angel Guimera (Frau Karl Druschki × Souvenir de Claudius Pernet) × Feu Joseph Looymans gives a marvel of color, but the plant shows lack of vigor and is subject to mildew. Souvenir de Claudius Pernet × Los Angeles is reminiscent of Los Angeles, with a more abundant foliage and more salmon color.

Last August, I spent a vacation in the Island of Majorca (in the Mediterranean Sea) and I noticed that Souvenir de Claudius Denoyel and Mme. Butterfly grow there with an extraordinary vigor, especially near the sea. In the garden of my friend, O. Junyent, the Catalonian painter, at Lluc Alcari, Majorca, on the shore, at an altitude of about 500 feet above sea-level, Mme. Butterfly has developed to such dimensions that many people take it for a climber. Many roses are doing well, but none as well as Mme. Butterfly, which can be considered as the champion for Majorca Island.

Hybridizing from a Woman's Viewpoint

By MISS RENA E. WILBER, Seattle, Wash.

EDITOR'S NOTE.—No reason exists why the intuition and manual delicacy of interested women should not give us great results in rose hybridization. Miss Wilber, who is president of the North End Flower Club, of Seattle, here gives her experiences for the guidance of others.

THE AMATEUR who has learned to grow favorite flowers successfully should be encouraged to go a step farther and try hybridizing. Not that we want the earth covered with inferior flowers, but in the hope of getting improved varieties. The joy of a garden is never fully realized until you produce a flower all your own.

I have found the American Rose Annual to give the most practical assistance, and I have had valuable advice from members of the Society. The article that first attracted my attention and made me feel like trying rose-hybridization was written by Prof. E. A. White, several years ago.

Many varieties of roses can be successfully hybridized out-of-doors in Seattle, although better results may be obtained with some varieties under glass. Frau Karl Druschki, Lady Pirrie, Old Gold, Isobel, Gen. MacArthur, Ophelia, Hoosier Beauty, and several others develop seeds outdoors.

It is most satisfactory to do hybridizing early in the season, not with the first blooms in the cooler weather, but preferably on a nice warm day in May or June, to allow a long season for ripening the hip. If some of the later hips do not color very well, they seem to finish ripening in moist sand or peat moss during the storage period before planting-time. I have taken some hips indoors that had not colored very much, placed them in a bowl of water, and made a bell-glass cover by taking out the bottom of a large bottle, leaving them until they colored well before storing them in moist sand.

While I plant my seed in a cool greenhouse, I feel sure that good results might be obtained in a properly prepared cold-frame. Probably it may be necessary to leave them in the frame longer for safe keeping. I believe one could easily plant rose seeds outdoors here in February.

Germination sometimes occurs in thirty days, and then at

intervals until the latter part of June. I do not find much further germination during that summer, except a very few in the fall which do not survive the winter. In an experiment I tried last fall, I thought for a time I had made a discovery. I kept two nicely ripened hips of Mme. Butterfly in a small vase of water on the kitchen window-sill for two months, keeping the water fresh. The hips turned brown and I feared they had rotted. However, I planted the seeds January 25, and they began to germinate March 2, and before March 30 I had thirty tiny plants; by June 1, I had thirty-three and no more later. This was the largest per cent of germination I had ever had from two pods. Unfortunately, they were not strong constitutionally, for one by one they perished until by October 1 only six remained. The plant stimulant I had used with good results on other seedlings failed to bring them along. At least, the experiment seemed to tell me moisture is needed to speed up germination.

This spring I hybridized several under glass, resulting in a splendid crop of hips to store away in December. I worked a good deal with my own seedlings, especially Myra, the cross between Dr. W. Van Fleet and Lady Roberts. It develops and matures seed easily out-of-doors, and with its fine foliage and vigorous constitution, combined with some others of more brilliant coloring, may produce something desirable. I have crossed it successfully this season with Admiration and the Queen Alexandra Rose. From former experiments I have two plants resulting from a cross with Climbing Sunburst, also one plant resulting from a cross with Mme. Edouard Herriot.

I also worked with a large, single, straw-colored Druschki seedling, and have nicely matured hips of this, with Gruss an Teplitz, Mme. Edouard Herriot, Mrs. Henry Morse, Morning Star, and Lady Pirrie.

Another cross I was much interested in was a rose-colored Multiflora hybrid, with Emily Grey, made in the hope of obtaining a strong decorative climber; other seedlings were crossed with Paul's Lemon Pillar, Independence Day, Padre, and Lady Pirrie. If I have a favorite rose it must be Lady Pirrie.

It will be noted that I am working for definite results, and not at random. I commend the effort to other women.

A Poor Start Makes Poor Roses

By W. L. BREDERO, F. R. H. S., Orange, New South Wales, Australia

EDITOR'S NOTE.—In this brief but very important statement, Mr. Bredero clearly sets forth the vital influence bud selection may have upon the future history of the progeny of the most carefully selected parentage. A seedling may be of very high order, and yet be so weakened by improper propagation that it never gets a fair chance in gardens. If the Annual were not already so full, the Editor could mention in detail several recent roses which have made good only after the first furious demand for them subsided, and their propagation could proceed normally with proper buds; for it is obvious that in ordinary practice nurserymen do use the best available buds because the best buds are always the easiest to work with.

MUCH OF THE dissatisfaction with new varieties can be proved, I think, to exist because of the weakening effect of over-propagation, and in particular to the use of undeveloped or unsuitable wood for budding. One might easily rush into an attack upon nurserymen for hurrying their new varieties to market before they have accumulated sufficient parent stock from which to select proper wood for propagation, but it is doubtful if such an attack would do any good.

Selection of proper buds will, no doubt, become the practice some time, but plants from such selected buds will cost more, because of the greater care necessary and the expense of maintaining a larger number of mother plants.

The American Rose Annual brings out the deplorable results of over-propagation for sale purposes when one reads such contradictory statements as "Does no good with me; a weak grower," and "A beauty; good foliage; strong growth," and so on, regarding plants of the same variety growing in the same state, one might say, almost side by side.

The reason for such contradictions is not in soil or climate, because the rosarians who write these impressions are mainly keen enough to study the requirements of their roses. Certainly the understock counts largely in the reckoning, but a great deal of knowledge is available about stocks, and that aspect may be laid aside for the present.

How many of us have purchased six to a hundred bushes of the same rose, planting them in the same bed, only to find them varying widely in performance and satisfaction! What is the trouble? Bud selection, perhaps, will solve a part of it.

For sixteen years I have watched the results of bud-selection in working citrus, cherries, and other deciduous fruits. When I am approached by orchardists to re-work a block of trees, often as many as 2,000, I have invariably advised the selection of buds from heavy-bearing trees of typical growth of the varieties to be used, and have had the bud-sticks taken during the fruiting season; and, equally important, have advised that only buds from the center third of the length of such bud-sticks be used for propagating. This method is not the last word, of course, but results prove that it does produce a higher per cent of profit per acre than the indiscriminate selection of buds.

I have before me "The Fruit World of Australia" and a portion of the New Zealand notes supplied by the New Zealand Institute of Horticulture, stating: "Valuable work in bud-selection is significant," "The selection committee. . . again selected some 6,000 apricot buds," "Growers, after six years' experience, are finding out that it counts a great deal to be able to rely upon one type, . . . and only these shall be used as parent trees in the future!" The same plan works with budding rose bushes as with fruit trees. For example:

Last season I obtained three roses of the variety Lorraine Lee from Sydney, and nine of the same from an Adelaide firm. To my knowledge both lots are on the same understock, and both are planted side by side in the same soil. The Sydney stuff is doing no good, but the Adelaide roses are ramping and flowering. If one lot were from a cold climate and the other from a warm one, another phase of the matter might be considered, but both came from warm or truly hot regions.

The answer is that the Sydney nurseryman, being limited for parent bushes, used all available buds for propagating, while the Adelaide firm, which had secured a large supply direct from the originator, had plenty of buds to select from. Sydney charged me 1*s.* 6*d.* (about 36 cents) per plant and Adelaide 2*s.* 9*d.* (about 64 cents) but it was worth the difference.

Much more could be said to prove that a proper selection of buds is necessary before we rosarians can properly discuss the merits and demerits of any new variety. And it is likely that occasional failure of highly recommended, well-tested sorts can be blamed upon plants from inferior buds.

The Northeast Corner

A DOUBLE SYMPOSIUM

LAST YEAR an attempt was made to put rose-growing in Florida in the domain of fact and common sense. The result was gratifying, and the presentation in the 1926 Annual will enable any intelligent reader to have roses freely where roses ought to be luxuriant.

Pursuing the same policy this year, the following pages are devoted to a consideration of roses in the northeast corner of the United States and the contiguous province of Ontario, a district of rigorous winters in general, modified considerably along the coast by the influence of the ocean.

The outline map will give an idea of the locations in which the following articles were written, and will provide a basis for judgment whereby members in the states under discussion can apply the information to their own local conditions.

Roses in New England

SYMPOSIUM I

EDITOR'S NOTE.—The papers here presented provide experiences and suggestions, not by any means always consistent, which ought to prove helpful to members in the New England District and adjacent territories who have believed the "hokum" so freely circulated concerning the limitations of its climate.

I. Roses in Maine

By DR. GEORGE T. ELLIOT, Oxford, Maine

"I DID not know that roses would grow outdoors in Maine," is the greeting my roses have received over and over again up here, though I cannot imagine why our climate should be regarded so inimical to their growth outdoors. The rose zone map* perhaps suggests that idea by placing Maine in the late-frost belt, but while frosts may occur here even in June, generally they are slight and of short duration, and in my experience, I have seen no harm or loss caused by such an occurrence.

During the blooming season, there are only occasionally very high temperatures, and then only for a few days; the nights here are always cool. We are not often troubled with drought, and if there is a dry spell, water can be used. The blooming season is later with us, usually beginning from June 20 to July 1, sometimes earlier, sometimes not. It lasts through September and most of October, and I have cut blooms even in November.

The past season was most propitious for roses, and the blooming has been exceptionally good in quantity as well as in quality. I really feel that a good part of it is due to the "heresies" of Mr. Stevens, as published in recent Annuals! All my new roses were planted with the bud not more than ½ to 1 inch below the surface. Many old plants were replanted in the same way, and flourished as they never had before. Some—Miss Cynthia Forde, Radiance, and the like—which had been struggling along and which I had almost decided to dig up and throw away, when replanted, started up and improved so rapidly that you might almost hear them chortling for joy. Perhaps more

*Published in the 1920 Annual.—EDITOR.

"heresy" will bring rose-growing to a much easier game in time. At any rate, I find Mr. Stevens' heresies quite orthodox, judging by results.

I have been trying to get yellow roses, but most varieties said to be yellow are not yellow. I wonder, sometimes, whether it can be due to the soil; then, again, I wonder whether I have received a substitute! This year, a Francis Scott Key was beautifully labeled Mrs. W. C. Egan. Joh. M. Jolles, described as a good yellow, was cream with flesh-pink center; very pretty, but still not yellow. The same disparity went through quite a list of others. The only real yellows I got, of all ordered, were Rev. F. Page-Roberts, Eldorado, Golden Ophelia, and Elegante. Roberts was superb. The most floriferous roses were Mme. Bardou Job (on September 1 there were 167 buds on four plants), Miss Willmott, Edel (which needs disbudding), Mrs. Henry Morse, Rose Marie, Wm. F. Dreer, Mrs. Charles Bell, Una Wallace, Souvenir de Georges Pernet, Diadem, and Betty Uprichard. Many others did wonderfully in quality and quantity. The best red is certainly Etoile de Hollande, though more stiffness in the stem would be desirable. Capt. F. Bald was a very good red, not fading or bluing, and blooming freely; it is subject to black-spot, not to mildew,—mildew is rare here.

All in all, the climate of Maine is not unfavorable for the outdoor growth of roses, but little attention appears to be given to their culture, except here and there along the coast and on some large estates. At any rate, while motoring about the state, with rare exceptions, the roses seen are the very hardy bush roses. The Hybrid Teas are conspicuous by their absence. In my own garden, there have flourished and bloomed many lovely Hybrid Teas as above named.

After five years' trial and experience, it has been very strongly impressed upon me that fall planting here is out of the question. I have tried it from early in October to late in November with the same melancholy result—severe loss, in one year as high as 70 per cent—and that notwithstanding careful subsequent winter protection. Fall planting may be entirely successful in the more central states, but certainly cannot be advised for this section of the North.

I obtain my new roses in the autumn, of course, but instead

of planting them, I bury them in a well-drained trench about 2 feet deep. Here they remain until the spring, and when dug up are in perfect condition for planting. According to the weather conditions, this is done at the end of April or the beginning of May, and any subsequent loss is very small. As to winter protection, I have found hilling up 8 or more inches the best; very delicate plants I cover entirely with earth. In the hollows between, cow-manure, covered with pine needles or other trash, is freely placed. With these and the snow blanket, which comes sooner or later, the roses come through the winter without trouble.

In conclusion, I can state that from my experience roses grow and flourish and bloom outdoors in Maine as well as in any other part of the country, provided they receive such care and attention as they need and deserve. Certainly they are not any more subject to being killed by adverse conditions of weather and cold here than they are liable to destruction from other kinds or sorts of adversity in other parts of the country.

II. New Hampshire Roses

By DR. JOSEPH BOYLSTON, Portsmouth, N. H.

BEFORE I write any notes on rose-growing in New Hampshire, I am compelled to admit that I am but the merest tyro at roses. Also, I feel that, owing to my location on the island of New Castle, I am not in an average location for the state. My rose-bed is on the northwest side of my house, but on the southeast side of a hill. We have late springs, and the northwest to northeast winds coming across the river certainly set us back, but the autumns are beautiful and we pick roses up to the middle of November.

We have a gravelly loam, and my bed is in soil that was thoroughly stirred up by our ancestors in building a fort for protection during the Revolutionary War. I have used stable manure, some ground bone, phosphate, and wood-ashes, and find it best not to disturb the winter covering until about May 1.

I have tried nearly all classes of roses and am gradually weeding out those that winter-kill. The Hybrid Perpetuals are hardy, but even they frequently die back here to within a foot

of the ground. The Hybrid Teas that live over the first winter seem to get established and come along for years. Sometime I hope to be able to give the names of those varieties that average best, but such differences of behavior occur that, so far, I feel that either I am to blame or the individual plants vary in quality. For instance, three plants of Paul's Scarlet Climber lived through the first summer and then passed on, but the fourth one, planted in the same place, is a wonder. I have tried, so far in vain, to get a Dr. W. Van Fleet to stay with us, but sometime—we hope it will be this season of 1927—we expect to succeed.

Polyanthas have done fairly well. If I were to select the three most satisfactory roses that I have so far tried, I should pick Frau Karl Druschki, Conrad Ferdinand Meyer, and Hugonis, in the order named. They are magnificent! For winter protection, I hill up the plants from 6 to 9 inches, put on my stable manure, and wait for a good hard freeze, when I lay on some pine boughs. A friend from across the river tells me that the best covering he has found is the seaweed known as eel-grass. Of course, that is most easily accessible to us, living on the coast. He says he covers the ground with it and then throws a handful at the bush, where it hangs until spring.

I take a tremendous amount of pleasure in working in my garden, and even leaving that out, the good health that comes from the exercise is well worth the cost.

III. Green Mountain Roses

By MISS EDNA V. HIGLEY, Castleton, Vt.

ALTHOUGH the Vermont summers and the soil in my back yard seem to please roses as much as the winters try to discourage them, my list of varieties is so short and I so seldom have more than one or two of a kind that my experience can hardly be so useful to others as it has been to me. I find individuals of the same rose-name differ as much as members of the same human family, and also that my experience does not always line up with that which is recorded in the books.

I fail with such standbys as Mrs. Aaron Ward, Radiance, Duchess of Wellington, and Jonkheer J. L. Mock, while Ophelia,

Mme. Butterfly, Columbia, Old Gold, and, above all, Lady Pirrie, come merrily through our "zeroest" winter.

I think the Hybrid Perpetuals do bloom for a longer period here, and, I imagine, may have better color than in warmer climates; anyway, frost in 1926 found buds on Prince Camille de Rohan, Paul Neyron, Mrs. R. G. Sharman-Crawford, J. B. Clark, and Mrs. John Laing. My beloved Jubilee, the "best rose ever" in Vermont, has two sets of blooms as large and perfect as the best Frau Karl Druschki, but it does not blossom late in autumn.

Soleil d'Or and Juliet bloom once, with short stems all over the branches, and then each of the new shoots has a glorious flower on the tips. These two do not need much protection, and will not tolerate it. I give them a little for my own peace of mind, although I killed the first I had with too much kindness. I protect my Hybrid Teas just as everyone does—hill them up like potatoes, then cover with leaves and stable litter. Very late in autumn, after all is frozen, I put on a few corn-stalks. I uncover early—often too early, being of a hopeful disposition!

I am interested in the subject of fragrance and color in relation to climate and soil, especially fragrance. Lady Pirrie is so fragrant here that I wonder not to see it mentioned if it is equally sweet elsewhere. Also, the color seems to be darker than the descriptions would lead one to expect. The bud outlasts Ophelia, and I believe it is as double. I have seen Willowmere described as having no perfume, and yet the early blossoms here have sufficient fragrance to be noticeable at once. Pharisaer is another rose with more color and fragrance than pictures and descriptions lead one to hope for.

Climbing roses have not done very well for me, although I have a Dr. W. Van Fleet that is about ten years old. Some of my neighbors succeed with other climbers where I do not. Since I do all the work about my roses, it is quite a bit of labor to put climbers away for the winter. I pack them down with old sods, leaves, and cornstalks. Here, we do not have all the pests mentioned in other regions. A little trouble with aphis, once in a half-dozen years a little touch of mildew and blackspot—but I buy more mildew with my new roses than usually comes in my garden! Perhaps the reason I do not have rose-

bugs is because I cut my roses so soon and so generously that it scarcely pays them to come to me!

One rose we are always sure of. When my ancestors came here from Connecticut, in 1770, the great-great-grandmother brought a rose bush with her, as she rode up on horseback. It is a Provence rose, and we still have it, or its descendant in a direct line.

The following roses have endured more than one winter here, except where noted.

Hybrid Perpetuals: Jubilee, Soleil d'Or, Juliet, Paul Neyron, Prince Camille de Rohan, Mrs. John Laing, Mrs. R. G. Sharman-Crawford, Ulrich Brunner, J. B. Clark, Hugh Dickson, General Jacqueminot, Clio.

Hybrid Teas: Mme. Butterfly, Ophelia, Lady Pirrie, Gruss an Teplitz, Kaiserin Auguste Viktoria, Maman Cochet, White Maman Cochet, Old-Gold, Jonkheer J. L. Mock (one winter), Pharisaer, Willowmere, Robert Huey, and Souvenir de Claudius Pernet (one winter).

Miscellaneous: Grandmother's Rose, Moss roses, Austrian Copper, Persian Yellow, and Conrad Ferdinand Meyer.

Climbers: Silver Moon (bloomed only once), Dr. W. Van Fleet, Paul's Scarlet Climber, Tausendschön, Dorothy Perkins, and a yellow rose sent for Tausendschön.

IV. Roses in Vermont

By R. R. CAMPBELL, Windsor, Vt.

NATURALLY, the important factor in growing roses in Vermont is the long, cold winter, necessitating thorough covering of the tender varieties. Much more troublesome, however, is the cold, windy, backward spring, for we may bring roses successfully through the winter under their coverings, but if spring delays and north winds persist, as they have a habit of doing lately, we have to watch them die back by inches, and the nice green canes we uncovered, shrivel and dry for want of warmth to start them growing.

Nevertheless, we grow roses of all kinds, and they give us a good return. With proper effort, we are able to grow any rose we want to—it is all a matter of protection and doing things at the right time.

For example, after several years' experience, we believe in fall planting, and planting with the bud barely covered. If one has to plant in spring, the earlier it is done after the frost is out of the ground, the better. Hardiness is more than

resistance to cold. There is a certain weed-like persistence about some varieties which is not so noticeable in others, and by means of which they go ahead when uncovered as if it were all in the day's work, while other varieties seem discouraged and take a long time to get started. For instance, the Ophelias, Radiances, and others like Miss Cynthia Forde and Golden Emblem grow sturdily year after year and are entirely dependable under all conditions, while others never make big growth, even though rated as strong growers in warmer sections. However, we want to grow them all, and can have them with, perhaps, a little more care and attention.

Mildew and black-spot are likely to be bad up our valley, with its cold nights and consequent fogs. These can be controlled by early and systematic dusting, so that the dust is there first. I refer, of course, to Prof. Massey's formula.* This also takes care of bugs, and I do not have much trouble with them, except rose-bugs. Some years I have to cut good buds early in the morning to save them. Rose-bugs do not seem to be early risers, or else they do not see in the dark, and one can save the roses this way.

In covering, I use a heavy mulch of leaves which does not seem to pack much if put on late. I hill up with dirt to cover the bud and pile on the leaves after the dirt is frozen hard, putting burlap or hay or roughage over all to hold it in place. Hybrid Tea climbers are more difficult to cover, but by using sacks filled with leaves, I manage to do a good job. Before covering, it is a good trick to apply poison dust to all climbers. This prevents mice girdling the canes.

We find the following hardy climbers dependable here: Elizabeth Zeigler (should be better known), Climbing American Beauty, Paul's Scarlet Climber, Emily Gray (seems as hardy as others when protected, but canes are brittle and break easily when bent down), Alida Lovett (bloomed all summer this year), and Excelsa. The following tender climbers have lived several years: Climbing Mrs. W. J. Grant, old Gloire de Dijon, and Climbing Etoile de France (makes tremendous growth). This year I had also Climbing Mrs. Aaron Ward, and I am immensely pleased with it. It has bloomed well and made a 6-foot growth.

*Consists of 9 parts dusting sulphur and 1 part powdered lead arsenate.—Editor.

Miss Marion Manifold is a fine spot of color in the garden, and makes reasonable growth for the first year.

Favorite Hybrid Teas, tested several years, include: Laurent Carle, Comte G. de Rochemur, George C. Waud, Mrs. Henry Morse, Miss Cynthia Forde, Mme. Butterfly, Harry Kirk, Mrs. Aaron Ward, Mme. Jules Bouché, Yellow Ophelia, Grange Colombe, and Los Angeles.

Some of the newer Hybrid Teas which look good are: Etoile de Hollande, Rev. F. Page-Roberts, Wm. F. Dreer, Eldorado, Una Wallace, Charles K. Douglas, Capt. F. Bald (had neither spot nor mildew this year), and Victor Waddilove.

I tried some of the newer yellow sorts this year, but cannot yet say much about them.

My garden is about 450 feet above sea-level, is mostly sloping ground and in it I have about one hundred rose plants, mostly one of a kind. The soil is composed of yellow clay.

In the following note, Mr. G. P. Cheney adds his experience in the same neighborhood. His garden is very exposed, and has no windbreaks. It lies on the river-level, about 250 feet above sea-level. Mine is higher and among hills, and protected on most sides. He has much harder conditions.

"On account of the unsheltered location of my garden, I am forced to adopt extreme measures in caring for my three hundred rose plants. Regretfully, I have partially hidden the beauty of about two hundred Hybrid Teas by enclosing the beds with wooden frames, having waterproof coverings for winter use and thin cloth coverings, admitting light and air, for summer use. I find a number of advantages in this method of protection. In summer, the combination of frame and cover keeps the soil about the plants in a cool, moist condition for a long time, does away with frequent applications of the hose, prevents injury from rose-bugs, lessens the fierce heat of midsummer sun and the force of high winds, both so injurious to the perfect development of the rose, and forms a barrier to cats and dogs that seem possessed to dig around them. The result is most gratifying in the increased number of perfect blooms.

"The waterproof winter coverings and the frames form an ideal winter protection. I shake a light covering of leaves about the hilled-up plants, put on the shelters, and spread over the

whole a liberal quantity of straw held in place by burlap. The chances are very good that under these conditions all my plants will winter perfectly. No water, ice, or snow touches them; they are kept snug and dry. Of course, a little circulation is provided to give them air to breathe.

"It is quite probable many will say all this trouble and expense are unnecessary, but after five years of experimenting with various methods of protection, I have decided it is about the only way to get the perfect blooms I am seeking.

"I have come to the conclusion that the method above outlined is by far the best one to combat adverse conditions of our Vermont climate, especially when a rose-garden is as open as mine, and exposed to every wind that blows.

"I prefer to gather blooms as they appear, enjoying their loveliness more indoors than out. It certainly pays to pet the rose, for it responds well, rewarding one in full measure for extra care."

V. Practical Methods

By MRS. A. H. PARKER, Charles River, Mass.

I HAVE had great success with roses bought from the reliable firms advertising in the Annual, even with plants sent me in full leaf and bloom, in pots. With the latter I shake out all the soil, untangle and spread their roots, and then plant—sometimes as late as the last of May. I have never lost one of these roses, and have planted tall standards this way in an unprotected garden with fairly high winds. I water very frequently, keep the stems moist by packing with burlap, and never allow the plant to dry until it is well established.

I prepared my first three beds by having them dug out 4 feet deep and filling with pasture sods and all the other things they tell you to do in English rose books. My beds were so deep that they did not need any drainage, but I have had just as fine roses with drainage and only 2½ feet deep. I have found liquid manure—plenty of it, and quite strong—the best fertilizer, together with frequent cultivation of the soil, and drastic soaking with water.

Protecting roses over winter in this climate is a considerable task. Mrs. Foote, who, as everybody knows, has wonderful

success with her rose-gardens, has each plant loosened on one side, bent over, and buried with soil, and then covered with leaves, etc., about 3 feet deep, and wire placed over the whole lot to protect from mice. I found this too expensive to have done, and far too tiring to do myself. After trying various methods, I have found an easier way, and so far have not lost a rose from winter-killing.

Before the ground freezes I drive a 3-foot stake beside each rose bush. Then I tie the branches together around the stake, hill up the earth about 1½ feet, and cover stake and bush with burlap, tying it firmly at the bottom. The hollows made by the hilling can be filled in with manure, but I have since given this up as unnecessary, and too much trouble to rake out in the spring, and digging it in generally brings the level of the bed up too high. I then fill between the burlapped bushes with small pine boughs, to the top of the stakes. In our uncertain springs this is a very good method, for you can take the pine boughs off gradually, and even rake the hills down and cultivate the beds before taking the burlap off. This saves labor and the roots are never disturbed. However, I do bury my standard roses.

About three years ago I gave up planting my roses any deeper than they were in the nursery, and am so glad to see in the 1926 Annual that other people are doing the same thing. Among other reasons for doing this, I find the bushes are less subject to black-spot if their leaves are fairly well off the ground, and it makes cultivation much easier, as well as spraying and searching for insects. I take a great deal of trouble to spread the roots out when planting, and if the hole is not large enough, I dig out "caves" with my trowel, to allow for the extra-long roots—always preferring to have my "caves" run horizontally rather than vertically. The holes are practically refilled with soil from the muck-pile; I think the plants take root sooner in this soil, and it packs easier. I find that oblong beds of 3 feet width are best.

I have tried a good many varieties, among which my favorites are: Los Angeles, Mrs. Henry Morse, Imperial Potentate, Mme. Léon Pain, Columbia, Königin Carola, Lady Alice Stanley, Lady Ashtown, La Tosca, Ophelia, Duchess of Sutherland. Other varieties I have grown are: Miss Cynthia Forde,

Rose Marie, Mrs. A. R. Waddell, Willowmere, Mrs. Aaron Ward, America, Sunburst, Mrs. S. K. Rindge, Souvenir de Claudius Pernet, Constance, Antoine Rivoire, Pharisaer, Prince de Bulgarie, Dean Hole, Jonkheer J. L. Mock, Killarney, Mme. Edouard Herriot, Harry Kirk, and Francis Scott Key. Of these latter I have never had success with Mme. Edouard Herriot, Mrs. S. K. Rindge, Sunburst, and very little with Duchess of Wellington, and was about to discard the latter when I read the Conard-Pyle Company's true description of it in their new catalogue, which makes me want to try it again.

If I could plant only four roses, they would be Los Angeles, Mme. Léon Pain, Mrs. Henry Morse, and Imperial Potentate. I must also include Ophelia.

I have just started with red roses, so I do not mention them in my list.

It seems to me that my daily inspection of the roses is really more valuable to their health than all the fertilizing, cultivating, and the like. This inspection amounts to cutting off the dead roses, removing stray insects or caterpillars, and pruning a little here and there; in other words, washing the garden's face. I know this daily inspection is worth a lot because when I go away in July and August, although the spraying, cultivating, and fertilizing goes on faithfully, the garden seems to look a perfect mess at the end of ten days.

Liquid cow-manure, bone-meal, Scotch soot, sheep-manure, and wood-ashes are the only fertilizers with which I have experimented. Black-spot is the only disease I have had on my rose bushes and at times it seems very hard to control.

I am rather bewildered by the different results secured from the same rose in practically the same locality, and unless people have tried a rose for three years and are certain it was properly budded on healthy stock, I do not think their comments are worth much. Roses act so differently when they are properly established, and even then they may be wonderful one summer and not very successful the next. To sum up, I have come to the conclusion that few roses will succeed anywhere without proper care, and with extreme care most roses will do well.

VI. Along the New England Seaboard

By JOHN BARROW, Stratford, Conn.

IN CONNECTICUT and southern Massachusetts, near the seaboard, fall planting can, if carefully and intelligently done, be practiced safely. It is essential that the plants be put in their permanent quarters early—not later than the first week in October. The first night frosts in the fall are nature's hints that the sap is about to stop flowing for the season. These frosts occur in this locality about September 20, and after this change in the season, roses can be transplanted with perfect safety.

If anyone is skeptical about the early date, try a few as an experiment. Then lift one of them about the middle of November (later, if frost does not interfere), and look at the roots; thousands of white roots will be found feeling their way out from the older ones, ready to take advantage of the first spring growing weather.

It should be your religious duty to preserve these white roots from being injured by the deep winter frosts by carefully and adequately covering them by hilling up and by leaves.

After pruning-time has passed, look to it that the growth is not impeded by the roots getting too dry. If the spring is cold and late, do not water too often. Keep a good tilth of soil always moving about by the application of the Dutch hoe; never allow the surface to cake. Immediately after heavy rains, and when the surface gets friable, hoe again. Shun chemical fertilizers as one shuns his Satanic Majesty; chemical concoctions are ruining millions of acres of good garden soil in America! Dig in vegetable leguminous humus, wood-ashes, cow-manure, or the best obtainable from other sources. Cut off old flower-stems down to the nearest prominent eye as soon as flowers get untidy. Get after black-spot and mildew early, and leave the rest to the dispensations of nature.

Varieties for bedding are suggested as follows: Columbia, all the Ophelia family, Etoile de Hollande, Kaiserin Auguste Viktoria, Independence Day, Rev. F. Page-Roberts, Mrs. Herbert Stevens, Radiance, Red Radiance, Mrs. Charles Bell, Mme. Caroline Testout, Frau Karl Druschki, Mrs. Henry

Morse, Souvenir de Georges Pernet, Wm. F. Dreer, Chateau de Clos Vougeot, Lady Alice Stanley, Lieutenant Chauré, Betty Uprichard, Rose Marie, Mrs. Aaron Ward, Priscilla, Killarney, and Wm. R. Smith.

VII. Rhode Island Roses

By R. MARION HATTON, Meshanticut Park, R. I.

EDITOR'S NOTE.—Another heretic records his experiences in a way to encourage any real grower who thinks more of the flowers than of their culture. Mr. Hatton compiled careful records which are, unfortunately, crowded out.

GIVEN a good healthy rose plant, I believe it will stand almost anything. Let me prove it! In the fall of 1925 I planted five climbers—Star of Persia, Heart of Gold, and the three Lovett sisters—Mary, Alida, and Bess, along a wire fence. The following spring it was necessary to move the fence before the ground had thawed enough to plant roses, so on April 11 I chopped out a lump of frozen earth with each plant and moved them. The fence-work was delayed and was not ready for the plants to be moved back until May 22. They were all growing nicely then, and in spite of all I could do, the heavy, clay soil fell away from the roots of each one when they were moved. Nevertheless, they continued to grow and have made a splendid showing this season.

This spring, when the first plants arrived during early April, the ground was still frozen several inches deep. With a crowbar, I dug out the frozen soil and, after filling the holes with loam from the south side of a building, planted the roses. They did not bloom early but have done very well.

We are told that roses will not do well where rain-water drips on them from the eaves. I have George Elger, Lafayette, Marie Pavic, and Gruss an Aachen, all Polyanthas, directly under the eaves of a sun-parlor roof where the drippings, when the plants are without leaves, cut a deep furrow in the ground right alongside the base of the plants. For two years they have bloomed continuously from June until frost.

Also against the rules is a hedge of F. J. Grootendorst along the north side of the garage, with a large maple tree on the west side. Robbed of food and moisture by the tree roots, and of all but the early morning sun, with the rain pouring off a very

steep, unguttered hip roof directly on them, these roses, planted the fall of 1925, pruned hard May 1, 1926, have grown splendidly and bloomed more or less continuously from June 25 until frost.

Mildew I have not had for two years, and I believe the use of wood-ashes is the reason. Black-spot I do have in spite of consistent dusting with the Massey dust, but with very few exceptions it has not been bad enough to affect the quantity of bloom to any great extent. Rose-bugs bother, of course, but they do not last long. A few other insects visit occasionally, but they do not amount to much. But aphis! Aphis are the cause of my premature old age.

This Rhode Island strain of the "greenfly" is practically immune to nicotine. I have used so much "Black-Leaf 40" that it seems to have had much the same result as vaccination!

I have used many methods of preparation, from 30-inch trenching, mixing one-third each of clay, top soil, and cow-manure, seasoned with bone-meal and lime, to no preparation at all, and I am so well satisfied with the latter that a new rose-garden now being prepared in good, rich garden soil, a heavy clayey loam, will not get any manure at all.

Last year a Mme. Edouard Herriot which was planted in a rich bed lost all its foliage from black-spot and gave only twenty-four mediocre blooms the entire season. It was moved into the berry-garden in the fall, to get rid of it. This spring, being in the way, it was again moved, this time to a bed of hard yellow clay without any preparation at all. It has developed into a splendid plant, *free from black-spot*, with about fifty perfect blooms during the season.

The Teas, Lady Hillingdon, Marie Van Houtte, and Miss Alice de Rothschild, in this clay bed have given perfect blooms on strong stems, while the Cochets, Alexander Hill Gray and Wm. R. Smith, in a specially prepared bed have had few good blooms, and these on weak stems.

My roses, regardless of the preparation, each get a trowelful of bone-meal two or three times during the season, and at least one large trowelful of wood-ashes in April, June, and August, as well as a feeding of manure-water (sheep, chicken, or cow, whichever is procurable), when they deserve it. A rose which is not working gets plain water only.

As soon as it starts to freeze they are hilled up as high as possible; I have tried straw, etc., on top of the hills among the branches, but as the tops usually kill to the hills I do not see that it makes much difference.

This spring it was not possible to remove the hills from around the roses until April 24, when I found that only one, an own-root Tea, Yellow Maman Cochet* (whatever that is), and a few of a shipment which, misdirected, had gone astray and arrived late in the fall, mouldy, and in very poor condition, had succumbed to the winter.

With the exception of Emily Gray, which had been laid down and covered with earth and had died back to within 6 inches of the crown, all climbers were alive almost to the tips, and then the miserable, changeable weather of April, with freezing nights, hot sunny days, and persistent drying winds, started to blast the canes like fire. Canes of Dr. W. Van Fleet and Paul's Scarlet Climber were killed to within a foot of the ground. Mary Wallace, Aviateur Blériot, and Excelsa lost about 2 feet of the ends of the canes. Dr. Huey alone stood the ordeal.

Bush roses did not seem to suffer to any appreciable extent and gave, this year, some of the finest roses I have ever seen.

The weather was very cool, with hardly any hot days until June 19, and the first to open were on June 13 (about two weeks later than usual), but oh, what blooms! All were large, all were good; all lasted long in perfection.

Hoosier Beauty, Los Angeles, Florence Pemberton, Elli Hartmann, Laurent Carle, and Josephine Thomas were splendid in September. The last named is not only beautiful but is also the best keeper I know.

There was not much left of the climbers to show, but Mary Wallace and Dr. Huey were beautiful and I very much like the climbing Hybrid Tea, Mrs. George C. Thomas; it gave a few dainty blossoms all through the season.

Among the Hybrid Perpetuals, George Dickson was a surprise. Every one of the big blooms was perfect and not one hung its head. Is there a Hybrid Tea of the same soft pink of Georg Arends? The new Mme. Albert Barbier is close to an everblooming Hybrid Perpetual.

*Mme. Derepas Matrat is frequently so called by mendacious nurserymen.—Editor.

VIII. Roses and Heresies in Connecticut

By ALEXANDER CUMMINGS, Jr., Bristol, Conn.

Editor's Note.—Of much more than average importance is what Mr. Cummings writes of rose-culture in general, in support of rose heresies, and of Connecticut roses in particular. He has had an extended and successful experience, for he was in charge of the superb Elizabeth Park Rose-Garden of which he speaks, and which, incidentally, was the immediate cause of the Editor's increased rose interest a dozen years ago.

READING the always-interesting sectional reports appearing in the American Rose Annual each season, I am led to believe that we, here in cold Connecticut, are really favored from a climatic standpoint. Our winters are consistently cold. We expect a cold winter and prepare for it, and while there are some of the more tender Teas and climbing roses with Tea or Noisette blood infusion which we cannot grow satisfactorily, the assortment that will do well here compares favorably with roses available in other sections. Certainly, all of the desirable Hybrid Teas flourish here, producing good flowers without stint from late June until late October—and a lot of flowers can be cut during that full four-months' period.

The rose is surprisingly popular in Connecticut, and I write "surprisingly" with intent, because prior to 1910, when the Elizabeth Park Rose-Gardens began to influence the garden-loving public, the culture of the rose was limited to June-flowering Hybrid Perpetuals and, in the hands of an occasional connoisseur, the tender Teas. Few are the gardens today which do not have their bed of roses, and few are the more pretentious estates without their rose-gardens. Assuredly, Mr. Theodore Wirth, then Superintendent of Parks, started something in conceiving and installing that rose-garden in Elizabeth Park—something which the combined efforts of all rose enthusiasts can never hope to excel in popularizing rose-culture.

Much has been done through the American Rose Annual, and much more undoubtedly will be done, by showing the beginner how easily roses can be grown. It is unfortunate that most of the literature on this subject stresses the difficulties to such an extent that the beginner is almost discouraged at the start.

The rose does not benefit in any way by the pampering too

often recommended in its culture. We should keep in mind that it is a shrub, and a fairly hardy one, and that it will do well in any soil which will grow an average garden crop, such as potatoes or cabbages. Where sweet peas do well, roses do well.

As the 1926 Annual points out, this business of preparing beds to a depth of 2½ to 3 feet is largely nonsense, for the all-sufficient reason that the bedding rose of today seldom roots to any depth exceeding 1½ feet. Further, in emphasizing the idea that roses should not be planted deeply, a most important fact has been brought to light. I assert that roses should not be planted any deeper than they grew in the nursery, and here is the reason. Decades ago, when deep planting was the proper thing, roses were imported from Europe, almost invariably budded on Manetti or Canina roots. Either of these produced long, far-reaching roots which would search for food. The great majority of today's roses are budded on Multiflora japonica, with more fibrous roots than either of the old stocks, and like the majority of fibrous-rooted plants, of a surface-feeding habit. They do not need to go deep for food.

Another fallacy—that pertaining to the drainage of the beds—is almost amusing. Writers, in referring to poorly drained soils, persistently recommend the removal of all soil to a depth of 3 to 4 feet, with the filling in of from 1½ to 2 feet of coarse stone, or any material which will drain. Where the soil really needs drainage, this procedure is worse than useless, for a reverse action is its result. During long wet periods, the water, following the course of least resistance, will accumulate and remain in this drainage material, rather than be absorbed through it. I write from experience, because in remaking a number of beds thus prepared one wet April, we found that rubber boots were in order before this drainage material could be entirely removed! Some 3 feet from the beds, a number of posts for pillar roses were set at considerable depth and the soil found reasonably workable. The fact was that surface water had drained *into* the rose-beds. Obviously, the only remedy where drainage is required is to drain the entire area.

Another common mistake, I believe, is overfeeding. When we see roses as grown in the nursery, sometimes for a two- or three-year period, where the soil is never over-rich and where

the culture is often limited to that given by occasional horse cultivation, and doing splendidly at that, we must conclude that this everlasting application of nitrates and other chemical fertilizers tends to bring on a condition of acute indigestion, which, abetted by changing weather conditions, is mainly responsible for mildew, black-spot, and other diseases.

A plant in vigorous growing condition is not as easily susceptible to insect pests or diseases. These appear promptly when growth is checked, and this often occurs, even with the everblooming roses, when the first big display is over in mid-July. This check, combined with the hot-weather conditions prevailing at that time, is the starting-point for attacks of black-spot, mildew, and red spider. The problem then is to keep the plants growing, and this is not difficult if we practice pinching, just as does the grower of greenhouse roses. When the flower-buds are set and begin to swell appreciably, it will help much to pinch back, say one-fourth of the growths, taking out just enough to remove all of the flower-buds. At this time the wood is soft, and there will soon arise one or more growths which will flower after the first crop.

The apparent sacrifice of flower-buds is no sacrifice, because most varieties carry more wood than is needed, and the quality of the remaining flowers more than makes up for quantity. Pinching is a most important factor with the newly planted rose-bed. It may require fortitude and determination on the part of the expectant grower to keep all flower-buds removed until August, but after two seasons of experiment I am convinced that more and better flowers are had the first season where pinching is done, and a big, healthy plant is assured.

Selecting from an assortment of some thirty-five kinds that were kept pinched, as an example, the variety Souvenir de Claudius Pernet (a mean grower) made very lusty plants, none less than 3 feet, and every shoot producing perfect flowers from September until November frosts stopped all growth. Radiance, Mrs. Charles Bell, Duchess of Wellington, Mrs. A. R. Waddell, and Mme. Léon Pain, as might be expected, made prodigious plants. These experimental groups were planted in fall—as all field-grown or dormant roses should be—in well-manured soil, and no summer feeding of any kind practiced. One or two

indications of mildew were promptly and easily checked by spraying, using liver of sulphur (one ounce to four gallons of lukewarm water, in which a generous double handful of Ivory soap shavings had been dissolved). This, with a clear water spray from the hose, applied late in the afternoon, both above and beneath the foliage, three or four times a week during hot weather periods, kept the plants free from aphis, and that most insidious of all insect pests, red spider, while check plots, not far removed, accorded the customary treatment and flowering at will, were bedeviled with every pest and fungus.

With the soil prepared to a depth of 1½ feet, in which is thoroughly incorporated 6 inches of good cow-manure, occasional light applications of bone-meal, and annually a very light application of lime, a good growing condition is assured.

I might also point out the advantage of close planting. A distance of 15 to 18 inches apart is sufficient for a moderate-growing rose, and 20 inches for the stronger-growing Hybrid Teas; these surface roots are benefited by shade they afford each other.

In the selection of varieties to grow, the beginner can do no better than choose from the "best dozen," as shown by the vote in the Annual. It is not my purpose to point out the merits of the newer varieties, which undoubtedly will be well covered, but I do want to emphasize that no new rose should be judged by its first or even second year's behavior. New varieties are prone to "flash in the pan" the first season, and then modestly retire into oblivion, while the less-promising variety may, in the course of time, acquire fame as did the Radiance family.

I do, however, want to call attention to the climbing rose, Mary Wallace. It has, beyond question, made good and has proved its ability to withstand a temperature of 10 degrees below zero without protection. Further, as time goes on, the more I observe the behavior of Purity, the less I think of Silver Moon. Under trying conditions Silver Moon is not a free bloomer. It produces blind wood, and I have known it to fail utterly in certain seasons. Purity, in effect, is in every way as lovely, blooming under any reasonable conditions, and a more hardy rose in every respect. Connecticut will always welcome new roses equal in merit.

Roses in New York and Ontario

SYMPOSIUM II

EDITOR'S NOTE.—Only a little less arduous than the winter rigors of New England are those of the broad strip of country running west from the Vermont boundary to Buffalo on both sides of Lake Ontario. Yet within this region roses are grown extensively, intensively and understandingly to an extent far exceeding that prevailing in territory south which has favorable climate to assist, but as yet lacks the rose-love so necessary. The papers that follow tell the story, and ought to encourage an extension of rose-supremacy.

I. Simplified Rose Culture on Long Island

By MRS. TRACY H. LEWIS, Plandome, L. I., N. Y.

I DO NOT consider myself, by any means, a true rosarian nor do I think I have, by any means, an ideal place to grow roses. My bushes grow on a narrow terrace, exposed to the northwest. We are on a side hill, with a sweep of wind that comes straight across the Sound, so that the poor roses are so whipped about at times that their petals and leaves are torn to ribbons by their thorns. Yet I have had lovely roses, perhaps because of what they are fed, and perhaps it is by reason of my love for them!

The first bushes I bought were from a man who started a nursery and then gave it up. He was selling his roses at $3 and $5 per dozen and I bought five dozen. Knowing nothing about the preparation of the soil, I dug a trench about 1½ feet wide and 8 inches deep. I put horse-manure in the bottom and a little dirt on that, and then planted my roses. In the winter I banked dirt around them about 6 inches high. I have had only one winter-killed in three years. They turned out to be all sorts of roses, and not what they were supposed to be, just as "bargains" frequently result. Some are lovely, and I am slowly adding to my collection from reliable sources.

Being away this spring, my roses were not uncovered until early in May, when a liberal dose of wood-ashes was dug in around each plant. They were not pruned, except to cut out the dead wood. I have had more roses than any previous year —I do not know whether it was due to the lack of pruning or to the unusually good rose spring that we had. When I cut the

roses, I cut to within a bud or two of the ground. My first rose bloomed on June 11, and I picked the last on November 18, after which they were frozen.

On May 25, I dug a trowelful of sheep-manure around each bush, and on June 13 the same amount of meat-scraps. On July 1 I did the same with bone-meal. July 27 I put rock-phosphate around each bush. I also covered the beds with peat-moss, mixed with an equal quantity of poultry-manure. This I allowed to lie on the beds and leach down in. I try to feed them something every two weeks, and they have certainly repaid me.

I have had at least one fresh bowl of roses each day, and, in June, when the Hybrid Perpetuals were in bloom, I gave away armfuls of roses.

There is no science to my rose-growing, but as long as the plants are healthy and I get so many roses, I do not see that it makes a great deal of difference. As I have so little experience with varieties of whose names I am sure, I cannot say which are the best for this locality.

II. Planting and Feeding Roses

By A. SCHIERENBERG, New York, N. Y.

WHEN I started growing roses for pleasure, seventeen years ago, my gardener planted the budding (or grafting) point somewhat below the surface, as recommended in the catalogues and under my supervision, but whenever he had a free hand, he let the graft protrude, claiming that it would bring better results as per his experience in Italy. I found his judgment correct long before I read the recent articles in the Annual.

I have never been able to understand the claim that the rose is a deep-soil feeder, as the root-development does not indicate it, except in very fine soil. My experience is not confined to Connecticut, but it was gained also in South Carolina on my cotton plantation.

I was very much interested in the comparison of results obtained from fertilizers, and have found the Springfield rose food very valuable. The report of applying potash freely to

prevent and control mildew is interesting and may be explained by the fact that potash hardens the stem and produces fruit, at least as far as cotton is concerned. Therefore, free or excess applications of potash salts may result in the shortening and premature budding of the new rose stems, for which reason I have abstained from using several hundred pounds of pure potash in my possession, and confined myself to liberal applications of tobacco powder and the Springfield rose-food to the exclusion of barnyard manure for some years. Until this year I used sheep-manure, tobacco powder, and manure water. I also apply regularly American potash marl, obtained from Marlton, N. J., which gradually releases its high potash content, while the sand helps the soil and also appears to attract nitrogen from the air.

III. Roses in Central New York

By G. GRIFFIN LEWIS, President Syracuse Rose Society, Syracuse, N. Y.

CENTRAL New York in all probablity has as many, if not more, amateur rosarians than any territory of the same size east of the Rockies, a fact no doubt due to the untiring efforts and wonderful influence of Dr. Edmund M. Mills, former president of the Syracuse Rose Society and president emeritus of the American Rose Society. For thirteen years Dr. Mills was president of the local society, during which time he organized many similar societies in neighboring cities, and inspired many with whom he came in contact, by his intense love for the Queen of Flowers.

Being one of the latter class, I began growing roses in 1914, since which time I have had experience with over four hundred varieties, and I am convinced that the soil and climatic conditions here are as favorable for rose-culture as anywhere in the United States, with the possible exception of the Pacific Coast. Nearly all the varieties with which I have had experience, except a few Teas and Noisettes, such as Maréchal Niel, Mme. Jules Gravereaux, William Allen Richardson, Souvenir de la Malmaison, Lamarque, Reve d'Or, and Hugo Roller have flourished, and even those just mentioned have, with good winter protection, survived and bloomed fairly well for several years.

Many of the Hybrid Teas and Pernetianas, such as Mrs. Ambrose Ricardo, Los Angeles, Golden Emblem, and The Queen Alexandra, have been nearly as difficult to carry through our severe winter months as have these Teas and Noisettes.

Own-root roses do not give as satisfactory results here as the budded ones, because they do not winter well, do not make much growth, do not bloom as freely, and are much shorter lived. It is quite necessary for us to take into consideration the kind of stock upon which the budding is done. While such stocks as Ragged Robin, Cherokee, Canina, and Odorata may do well in the South and extreme West, there is no doubt in my opinion that the best stock for this locality is the Multiflora.

Good results may be obtained from either spring or fall planting, but, personally, I have had just as good results, as far as growing and blooming are concerned, with bushes which were set out in the very early spring, as soon as the frost is out of the ground, as I have had with those which were set out in the fall, and I have lost fewer bushes in spring, as the cold weather comes on so quickly that the roots of those planted in the fall scarcely have time to become established.

I advocate early and severe pruning. Generally, during the latter part of March or the first part of April, my Hybrid Perpetuals are cut down to within four or five eyes, and a week or so later, my Hybrid Teas and Pernetianas are cut down to two to four eyes. Of course, my climbers are pruned in August, just after the blooming season, thus throwing all of the sap into the new growth which will produce the flower-bearing shoots of the next season.

The amount of disbudding one should do depends upon the weather conditions. If the season is early and warm, causing the buds to develop rapidly, severe disbudding should be practiced, but if the season is rather backward and cool, so that the buds develop slowly, little or no disbudding is necessary. Last spring here was late and rather cool, consequently I disbudded not at all, yet I have never had so many and such perfect blooms. One bush of Mme. Segond Weber had 124 blooms and buds during the season, practically every one of which was perfect.

During the first few weeks in spring, considerable attention should be paid to the amount of moisture in the soil. It is

difficult to make any rule in regard to the frequency of watering, as at times the heat and evaporation are greater than at others. It is well to take a handful of soil from a few inches below the surface and, if it is dry enough to crumble in the hand, a thorough watering should be given which will soak in to a depth of from 15 to 18 inches. Do not merely sprinkle, or the roots will be drawn up to the moist surface to be cooked by the sun. Just what time of day to water is also important; preferably in the early morning, before the temperature rises, or better still, in the early evening, just after the sun has gone below the horizon. Plants evaporate more moisture than they absorb during the day, hence the cool of the early evening gives the roots an opportunity to absorb the water in proportion to the evaporation from the leaves. Never water during the heat of the day, so that the soil becomes baked by the sun and, when evening watering is done, do it sufficiently early so that the foliage dries well before dark, and mildew is not encouraged. The same rule should also apply to spraying with solutions, for the destruction of insects. Such spraying should be commenced soon after the first leaves begin to show and kept up, whenever necessary, throughout the season. For this purpose I use a mixture composed of eight teaspoonfuls of Black-Leaf 40, one-half ounce potassium sulphide, and one-half cake Ivory soap (small size), to eight gallons of water.

The method of feeding roses also depends upon such circumstances as soil and climate. In central New York, where the blooming season is limited to less than five months, plants require less food than they do in warmer climes where the blooming season is from six to eight months. It has been my custom, during the past four years, each spring to leave on most of the manure which was applied after hilling up in the fall, and cover it with the dirt taken from around the bush. In addition, I usually apply, when the buds begin to show, a mixture composed of one part each of bone-meal, sheep-manure, and wood-ashes, with one-half part of slaked lime. A trowelful of this mixture is carefully spread around each plant and worked well into the soil. The customary weekly application of liquid manure is dispensed with. I believe that there is just as much danger of overfeeding as there is of underfeeding.

No matter where roses are grown, a thorough loosening of the soil by frequent hoeing is quite essential if one desires good results. Such treatment keeps the soil mellow and sweet, hinders the loss of moisture, harasses harmful plant enemies which may be hiding in the soil, as well as promotes growth and keeps the plant healthier, assuring both quantity and quality of bloom.

Mildew and black-spot are more prevalent in some sections than in others, and in central New York we have our share of both, especially from the latter part of August on, when the nights begin to get cool. This is the first season that my garden has been free from these diseases (with the exception of two Juliet bushes), a fact which I attribute to a weekly dusting with the Massey dust (nine parts of dusting sulphur to one part of powdered arsenate of lead).

Both black-spot and mildew can be prevented, and mildew, when once started, can be cured by this treatment, but once black-spot has started, nothing will cure it. The only thing one can do is to pick off and destroy the diseased leaves, thus limiting the spreading tendency. A very simple and quick method of applying the Massey dust is to put it in a cheese-cloth bag on the end of a long pole, which is gently shaken over each bush. It takes about 50 cents worth of the mixture and a half hour's time to cover my four hundred bushes.

My beds are nearly all 3 feet wide by 16 feet long, and for the first six or seven years I covered them each winter with housings which were 1½ feet in height, after hilling them up and filling the depressions with well-rotted manure. This method had its disadvantages. First, because it was necessary to do a certain amount of fall pruning in order to get the tops on the housings; second, the humus from the manure was not washed into the earth until after the housings were removed in the spring; third, although my housings had plenty of holes for the purpose of ventilation, the heavy snows so completely covered them that the bushes did not get sufficient air and, when the housings were removed in the spring, many of the canes were mouldy; fourth, the mice would get inside of the housings and do more or less damage; fifth, it entailed too much labor in applying the housings in the fall, removing them in the spring,

and storing them in the summer. Notwithstanding all of these disadvantages, I seldom lost a bush and always had a profusion of bloom during the next season. For the past five or six years I have done away with the housings and have only hilled up as high as possible and filled the depressions with manure and, although I have been obliged to prune quite severely in the spring (down to the top of the dirt), and have lost from 1 to 3 per cent of my bushes, I have had much less work to do and my blooming has been just as profuse. My climbers have all been tied up in bundles and wrapped in burlap, and then tied to the arbors. This also has its disadvantages, in that the burlap gets wet and freezes, and I am persuaded that my neighbors, who have only tied the canes up in bundles and laid them down without any burlap, have had just as good, and in some cases, better results, so that this winter, I intend to omit the burlap. The more tender varieties I will cover with boxes.

IV. Amateur Rose-Growing in Rochester, N. Y.

By PAUL AND ELSIE SEEL, Rochester, N. Y.

THERE is no hobby which yields more mental and spiritual rest than growing flowers, especially roses. It is a hobby which can be indulged throughout one's entire life with the keenest enjoyment. The necessary experience is not at all difficult or costly to gain.

Perhaps the first question which might be asked is, What varieties have we found to do best in this section? As our efforts have been directed to planting only those varieties which appealed to us, we cannot give the proper answer, but we have grown the following varieties with very good success. The list covers a wide range of satisfaction to us.

Bush Roses: Kaiserin Auguste Viktoria, Frau Karl Druschki, Mrs. Aaron Ward, Mme. Butterfly, Premier, Columbia, Mme. Edouard Herriot, Los Angeles, Hadley, Red-Letter Day, and Richmond.

Climbers: Paul's Scarlet Climber, Silver Moon, Dr. Huey, Climbing American Beauty, Goldfinch, American Pillar, and Dr. W. Van Fleet.

How to grow them? Almost any soil will do, clay being preferred, though we have seen some very fine roses grown on sandy and loose soil, with a good supply of humus to hold moisture properly around the roots. Plenty of any kind of well-rotted manure, excepting perhaps chicken-manure, is essential. We have learned, by sad experience, that working rotted or unrotted leaves into the ground should always be avoided, because such action seems to encourage disease attacks.

Cultivation is very necessary and our experience tells us it cannot be overdone. During the growing period watering should be done only when the ground is very dry and not during the semi-dormant season which, in Rochester, occurs along in August.

Although disbudding is painful to the amateur grower, it is essential if one wants perfect blooms. It should be done just as soon as the buds form, and will prove well worth while if one is trying to grow the best flowers. We have found it best to take off the unwanted buds when they are very small, as soon as they can be grasped by the finger and thumb or be picked out by the nail. When this is done the remaining bud has the benefit of the sap which would have been used by the side buds, and develops much more perfectly and to greater size.

A spray of Bordeaux mixture, as soon as the bushes have been uncovered in the spring and the last thing before they are hilled-up in the fall, is very helpful in keeping away black-spot. Through the growing season, very dilute lime-sulphur spray every two weeks, except when the flush of bloom is on, combats mildew very successfully, unless the rose-garden is very shady, in which case it is almost impossible to keep mildew from some varieties, but spraying with lime-sulphur would help even under these circumstances. Arsenate of lead will take care of leaf-eating insects, and for sucking insects, such as aphids, Black-Leaf 40, mixed with soapsuds, is very satisfactory. Spraying, should be done early in the morning when the dew is on the foliage.

Pruning is one of the most essential factors in growing large, perfect, long-stemmed blooms. For a number of years we watched men, who, we believed knew the pruning game well, prune our bushes, and sometimes despaired that we would

ever have sufficient confidence to undertake such a task. One spring, however, we took the bull by the horns and pruned for ourselves. The secret of the whole matter is to prune to four or five eyes or buds which point to the outside of the plant. If the bush is pruned to eyes toward the center of the plant, it will be ill-shaped and will not let the sunshine in to the center. The best pruning tool is cheapest to buy in the long run.

Our first experiment in fall planting was with three-year-old, field-grown bushes which had all the ear-marks of perfect stock. The casualty list the following May was heavy; out of twenty-six bushes only five or six lived. The heavy loss can be ascribed to our inexperience in the matter of winter protection. We used inverted butter-tubs, with the bottoms removed, which, after being placed over the bushes, were filled with earth. The earth was piled up above the tops of the tubs in the fall but by early spring had settled down and allowed water to collect. Result, wet feet (roots), pneumonia (black-rot) and death! Fall planting was held to be the cause of the trouble, and we vowed that early spring was the only time to put out stock in this vicinity, at least. We now feel that that notion was entirely incorrect.

In spite of our hasty and incorrect conclusion, our next planting was done in late October, and in the middle of November the bushes were heeled-up with earth for about 10 inches. As an experiment, a few bushes were protected with coal-ashes and the results were the same as where earth was used. The next spring our score was 48 to 2 in favor of fall planting, and for a number of years this has been our practice, with the best of results.

Winter protection is best achieved here by hilling up the bushes to a height of 10, 12, or even 14 inches the latter part of October or early November. Leaves should never be used. If one delays too long in hilling up the bushes and the ground should freeze, a very satisfactory substitute for earth is common coal-ashes which can be placed around the bushes, even up to the time that a heavy fall of snow occurs, and while this is not, perhaps, the most sightly method, in an emergency it gives most satisfactory results.

V. A Home Rose-Garden in Ithaca

By E. A. WHITE, Professor of Horticulture, Cornell University, Ithaca, N. Y.

EDITOR'S NOTE.—As Secretary of the American Rose Society for several years, Prof. White became very well and favorably known to many of us. He might have written on roses from the standpoint of the teacher, but has instead given us his own home experiences.

I SHALL not attempt a review of rose-growing from the viewpoint of the research problems which have presented themselves in the trial-gardens of Cornell University, conducted in coöperation with the American Rose Society, but shall limit myself to personal observations and the results of experiences in my own very modest rose-garden.

Seven years ago I bought a house and grounds, including an acre of land. In comparison with many pretentious rose-gardens, mine is quite insignificant. However, it has furnished much enjoyment to the family and also to many friends.

The soil in my particular location is a heavy clay loam, while that of a neighbor, less than a quarter of a mile away, is a light sandy loam. His success in growing roses is equal to mine, which leads me to believe that the physical character of the soil is not the most important factor for success, provided it is rightly handled. Each type of soil requires definite tillage treatment; therefore each rose-grower ought to learn from experience the particular method of cultivation his soil requires.

Every type of soil must be perfectly drained, for no rose will thrive in a soil that is constantly water-soaked. Before planting I installed tile-drains to a depth of 3 feet.

The beds for the pillar and the climbing roses were not specially prepared. This land had been used for many years for agricultural purposes, and the particular section in which the roses were planted had evidently been in sod for a considerable period. A bed 3 feet wide was spaded around a rectangular area and the subsoil broken to a depth of 2½ feet and thoroughly enriched with cow-manure.

Profiting by previous experiences, I determined to grow no species or varieties that required any special treatment or an unusual amount of labor. My garden is a very personal affair, and whatever labor is done on it is by me or by the family.

I also decided that my garden should be significant of friendship, so I asked many of my rose-loving friends to name the varieties they would have represent them among my roses.

I was uncertain when to plant my roses. Certain friends recommended fall planting, but I had found by experience that unless the tops were very carefully protected, many plants winter-killed when so planted. This seemed to occur whether the planting was done early or late. I also had found that if the plants were ordered for spring delivery, often they were delayed in transit or because of other reasons the buds were far advanced before the roses were received. My practice in recent years, therefore, has been to order my roses in the fall and on their arrival to dig a trench about 2½ feet deep in a well-drained spot and completely bury the plants for the winter. As early in the spring as the ground can be worked easily and danger from hard frosts is over, the rose bushes are taken out of the ground and planted where they belong. The wood is then plump and firm. All dead branches and weaker growth at the tips of the stems are removed with sharp pruning shears.

As soon as a strong growth begins, a top-dressing of stable manure is given each plant. This starts the plant into vigorous growth during June and early July, and after that period fertilizers are not given, as growth of the canes should not be stimulated in late summer and fall. Late fertilizing causes a soft, succulent growth, especially at the tips of the canes, which renders the plants subject to winter-killing.

For supporting the pillar and the climbing roses, I have found nothing better than angle-iron posts, similar to those used for poultry-wire. Between these are strung about four rows of wire, the same as is used for grape-trellises. The canes are tied easily to the wire as growth progresses during the summer and are also removed easily for winter protection.

Pruning pillar and climbing roses is begun as soon as they are through blooming, usually in July. All the flowering canes are cut back to the ground, and every effort is made to encourage a vigorous growth of young canes from the base. If the variety has a tendency to produce but few canes from the base, they are clipped about August 1 to encourage the growth of side branches, each of which should produce bloom.

As the plants become older and have well-established root systems, a second top-dressing of stable manure is given about July 1. This stimulates proper growth of the new canes.

As has been stated, I grow only those varieties which are the most hardy. If, after reasonable protection, a variety fails to withstand the winter, it is not replaced. Comparatively few of my varieties require special winter protection. I consider few have such merit that they deserve special attention.

About November 1, the canes of the more tender varieties are released from the wires by cutting the tobacco-twine with which they have been tied during the summer. They are then laid on the ground and covered with a few evergreen boughs. Later, as the snow fills in over and around the boughs, the roses are sufficiently protected and little winter-killing results. The hardier varieties are not covered by boughs. The pillar and climbing roses in my garden which, when so protected survived the winter when the mercury was 20° below zero, are: American Pillar, Aviateur Blériot, Christine Wright, Dr. Huey, Dorothy Perkins, Dr. W. Van Fleet, Elisa Robichon, Emily Gray, Evangeline, Excelsa, Ghislaine de Feligonde, Hiawatha, Paul's Scarlet Climber, Purity, Rubin, and Silver Moon. Of these, Aviateur Blériot, Emily Gray, and Silver Moon are the most liable to winter-killing.

It is necessary to watch throughout the winter for rabbits, as they have been known to take advantage of the protection offered by the boughs to feed on the bark of the rose canes.

For three years I grew Hybrid Perpetuals, Teas, Hybrid Teas, and Polyanthas in the same beds with the pillar and climbing roses, but found the result unsatisfactory. Hugonis so overgrew all the less-vigorous species that it was removed to the shrub border where it could spread its beautiful foliage to its satisfaction and mine. If this species produced no flowers I would grow it for its attractive foliage alone.

The Austrian Briers, Harison's Yellow and Persian Yellow, were also moved to sections of the lawn where they could send out their underground shoots and spread unrestricted. The Moss rose Blanche Moreau, and the Hybrid Rugosa Conrad Ferdinand Meyer, were also moved to the shrub border. My special favorite, the Hybrid Musk Danäe, proved to be too

trailing in its habit of growth to live comfortably with other types, wherefore I gave it a place bordering some stone steps where it could spread its graceful branches and cover as much area as it wished.

Beds for the dwarf roses were prepared more carefully. The soil was removed to a depth of 3 feet and coarse material, such as stones and broken bricks, were placed in the bottom for drainage. The coarser sod was placed over them and a heavy application of stable manure was spaded into the top compost. The Polyanthas, Hybrid Perpetuals, and the strongest growing Hybrid Teas were planted 2½ feet apart each way, and the weaker Hybrid Teas 2 feet apart. Fertilization of these species is practically the same as for the pillar roses. Just before the ground freezes, the soil is coned around the bases of the rose plants, and after the ground is frozen, evergreen boughs are placed around the tops to prevent winter-killing. Evergreen boughs are better than other material because they are light and do not break the twigs and branches of the plants. They also allow good air-circulation and give sufficient protection so that alternate freezing and thawing of the tops of the rose plants, which is so destructive to plant tissue, does not occur during the late winter months. After heavy freezes are over in the spring, the boughs are removed and a little later the mounds of earth are removed from the base of the plants. They are then ready for pruning.

The amount of pruning this group of roses should receive will be governed largely by the vigor of growth. As a rule, the weaker the variety, the more severely it should be pruned. The pruning shears should be sufficiently sharp so that the tissue will not be crushed. Naturally, the canes will be somewhat winter-killed, and the extent to which this has occurred will be indicated by a blackening of the bark. Strong canes should be cut back several buds below the blackened area, and strong shoots bearing large-sized flowers will ordinarily result. If the shoots are not cut back to strong buds, weak growth, which bears few or no flowers, results. Consequently, weak-growing varieties need to be pruned severely, so that new growths will start from the stronger buds which are usually found at the base of the stem.

After pruning, the roses should be mulched quite heavily with cow or well-rotted horse-manure. This insures a quick growth of heavy foliage, resistant to disease and insect attacks.

As soon as growth is well established, the plants should be sprayed to prevent insect attacks, also black-spot and mildew. Recently I have given Black-Leaf 40, as the first spray, using approximately one part to 500 parts of water in which there has been dissolved one ounce of soap. Applied in a fine spray, it coats the under side of the leaves as well as the upper and kills the rose-hoppers which eat the epidermis of the leaf, causing a whitening of the foliage. Later dust mixtures of sulphur, arsenate of lead, and nicotine obtained from the Niagara Sprayer Company, Middleport, N. Y., serve to keep all pests in check. The dust mixtures are more effective if they are applied early in the morning while the dew is on the foliage.

The following varieties have given excellent satisfaction in my garden:

Polyanthas.—Ænnchen Müller, Echo, George Elger, Gruss an Aachen, Miss Edith Cavell, Mme. Jules Gouchault, Mrs. W. H. Cutbush, and Orléans.

All of these are valued for their abundance of bloom throughout the summer, and even after the early frosts of the fall some flowers are always available. Orléans is particularly prolific, and Gruss an Aachen has beautifully colored flowers which have wonderful keeping qualities.

Hybrid Perpetuals.—Frau Karl Druschki, General Jacqueminot, and Georg Arends.

The Hybrid Perpetuals make less of a personal appeal to me than the other types and therefore but few of them are grown in my limited area.

Hybrid Teas.—Columbia, Constance, Donald MacDonald, Duchess of Wellington, Gruss an Teplitz, Killarney Queen, White Killarney, K. of K., Laurent Carle, Miss Cynthia Forde, Miss Lolita Armour, Mme. Edouard Herriot, Mme. Ravary, Ophelia, Premier, Radiance, Red-Letter Day, and Willowmere.

These varieties represent practically every color and have proved their worth. They are grown because of the satisfaction they give. Each year I try a few of the newer sorts and eventually my list will be much longer.

VI. A Buffalo Backyard Rose-Garden

By OSCAR S. WITTE, Buffalo, N. Y.

ON a city lot 40 by 150 feet, planted with about 1,300 rose bushes in 121 varieties, Mr. Jacob J. Lang has today the most beautiful rose-garden in this part of the country and, possibly, considering the location, one of the largest in any large city of the United States.

An enthusiastic member of the American Rose Society, Mr. Lang is willing at all times to share his experiences and welcomes visitors of the Society. To sit on his back porch with more than a thousand strong, sturdy bushes blooming exquisitely before you is an exhilarating experience.

The soil is light sandy loam—one can shove a walking-stick far into it. It is well drained, a great asset. About once a month the plants are given liquid sheep-manure. Arsenate of lead is the only spray material used. Mr. Lang buys strong, vigorous, budded two-year-old plants.

The only pruning the roses receive is the removal of dead wood, and the cutting of a goodly number of blooms for decorative purposes which, in a sense, is pruning also. The winter may kill a little of the tops which have to be removed also. Mr. Lang never lost a single plant in winter. Toward summer the beds are covered with peat moss about 3 inches thick, thus preventing the growth of weeds. This peat moss is a great help in keeping the ground moist at all times, preventing the light soil from drying out.

To encourage newly planted varieties that hate to leave their dormant state, a paper cone about 8 inches high is placed about them filled with peat moss, which is kept damp continuously. In one week, new growth starts. Mr. Lang has thus brought many weak plants through. The past spring, eight newly planted Mme. Segond Weber acted that way; in the month of August this treatment was administered and within one week new growth started. Weaker varieties are always planted in a separate bed and given special care.

In the autumn a cylinder of paper about 6 inches in diameter is placed around each bush, no matter how strong a plant it may be, and filled with peat moss, over which is placed a hamper

for further protection. This is never removed until after May 1, when all signs of killing frosts have passed. Many make the mistake of removing winter covering early in April, thus affording a good chance for Jack Frost to do his work, killing new growths. For tree roses, Mr. Lang has a straw covering large enough to cover the tops, over which is placed and securely tied a canvas preventing the rain from entering.

About varieties: Red Radiance grows to 4 feet, with 19 blooms of excellent size at one time. Beauté de Lyon is very good. My Maryland, rather hard to raise as a rule, produces large stems and big flowers. Miss Lolita Armour, usually having weak necks, is strong and sturdy. Mr. Lang believes that by proper care many of the so-called weak growers can be successfully grown and many of their faults overcome. Other varieties recommended are: Cheerful, shining pink, like a small peony; Königin Carola, Red-Letter Day, Wellesley, Frank W. Dunlop, Alexander Hill Gray, Lady Alice Stanley (surely a reliable rose). Rev. F. Page-Roberts blooms wonderfully. Natalie Böttner is little known; it has creamy blooms with flesh and yellow shading. Mary, Countess of Ilchester is very satisfactory and many other sorts flourish here.

VII. Rose Varieties in Ontario

By PAUL B. SANDERS, Ottawa, Ontario

MOTION PICTURES and romantic fiction to the contrary, we in Canada do not suffer the perpetual snow frequently credited to us. It is quite true that late spring and early fall frosts curtail the growing season, but in Ottawa (where the temperature registers 25° Fahr. below zero at least once a winter) a great variety of roses is successfully cultivated. The blooming season lasts about four months during which we secure a plentiful supply of practically all types except the Teas. The short growing season, coupled with more or less difficulty in providing adequate winter protection, only makes the game more interesting.

Moss roses, *Rosa rugosa* and its hybrids, Harison's Yellow, Persian Yellow, Spinosissima roses, and many of the true rose species are hardy here; while the Polyanthas, Climbers and

Ramblers, Cabbage and Provence, Hybrid Perpetuals and Hybrid Teas are all cultivated in variety, and with considerable success. All these, however, need some winter protection.

In small gardens, where individual bushes may receive attention, it is simplest and safest, for all but the climbers, to mound the earth around the bushes to a height of 6 to 8 inches; but in larger gardens, where the beds are thickly set with bushes, this system is impracticable because there is not sufficient soil to protect the stems without exposing the roots to harmful conditions. In such cases it is best to peg down all bushes as much as possible and cover them with dry leaves or strawy manure, held in place by evergreen boughs or brush.

With climbers, the surest way is to remove them from their supports, tie the canes loosely together, lay them on the ground, and cover the whole with a box, the ground forming its floor. It is necessary to have the box waterproof, else, in the spring sunshine, snow will melt and seep through on to the bushes, only to be frozen again at night, to the material detriment of the climbers. Any space within the box, after it has been placed over the bush, should be filled with dry leaves. It is impossible to overemphasize the importance of having the winter covering dry when applied; otherwise, mildew and rot are likely to occur.

No discussion of roses grown in Canada would be complete without definite reference to the new Hybrid Rugosa, Agnes, which was awarded the Walter Van Fleet Gold Medal in July, 1926. This rose, a cross between *Rosa rugosa* and Persian Yellow, was originated by the late Dr. William Saunders about 1900, at the Central Experimental Farm at Ottawa, Canada, where it has, since that date, been under test with highly gratifying results. It is a strong grower, produces an abundance of fragrant, pale amber, double flowers early in the season, and is definitely hardy, needing absolutely no winter protection in this climate. In habit and foliage the bush resembles its Rugosa parent, and so is not particularly adapted to bedding, but as a specimen bush, or in groups on lawns, it is fine. The blooming period is short—about three weeks—but the variety is invaluable because of its hardiness, earliness of bloom, and the unique color of the flowers.

Other Hybrid Rugosas which are very suitable for colder

regions are: Souvenir de Philemon Cochet, and Mme. Georges Bruant, white; Mrs. Anthony Waterer and F. J. Grootendorst, red. These bloom continuously from June until October, and need no winter protection of any kind.

Unfortunately, Hybrid Perpetuals are cultivated in smaller numbers yearly, and while this class does not supply us with the long season of bloom or the wide color variation provided by the Hybrid Teas, many of them deserve serious attention, and several do bloom off and on throughout the summer. Frau Karl Druschki is consistently a fall bloomer here, and is the best white rose of any class, even if it sometimes winterkills.

Several other Hybrid Perpetuals do very well here. Alfred Colomb, Alfred K. Williams, Gen. Jacqueminot, Ulrich Brunner, Baroness Rothschild, Mme. Gabriel Luizet, Mrs. John Laing and Rev. Alan Cheales are excellent, while Captain Hayward, Gloire de Chédane Guinoisseau, Hugh Dickson, Prince Camille de Rohan, and Captain Christy all perform satisfactorily, though not as robust as the first group. Regardless of all reports to the contrary, Paul Neyron must be classed here with the tender roses, for it seldom winters without harm.

It is easy to name dozens of varieties of Hybrid Teas and Pernetianas which do well in this district, if proper winter protection is afforded, this being the one big feature, the essential item, in rose-cultivation in the greater part of Canada. But three outstanding varieties—Gruss an Teplitz, La Tosca, and Avoca—winter as well as the majority of Hybrid Perpetuals, and better than many; and Gruss an Teplitz and La Tosca provide a remarkable profusion of bloom throughout the entire season.

Among the red and red-shaded varieties we have an extensive choice. Beginning with Gruss an Teplitz and Avoca, we have Covent Garden, valuable because of its unfailing supply of crimson bloom in September and October; General MacArthur, Hadley, Hoosier Beauty, K. of K., Lieut. Chauré, Red-Letter Day, and Vesuvius, all well worth while.

In pink sorts, La Tosca, Mme. Caroline Testout (a fine old standby), and Frank W. Dunlop (much newer) head the list; Betty Uprichard, Columbia, Dean Hole, Lady Ashtown, La France (with its persistent balling), Los Angeles, Mme. Abel

Chatenay, Mme. Léon Pain, Mrs. Henry Morse (which suffers more from black-spot than mildew here), Ophelia, Premier, and Willowmere all grow well and produce much fine bloom.

Betty, Gorgeous and Lady Pirrie are here easily the best of the copper-shaded varieties.

The highly praised, tremendously advertised, and widely-grown Radiance has proved here a startling disappointment. We cannot persuade it to become established; it either dies out during the summer, or winter-kills. The Central Experimental Farm at Ottawa has tested twenty-three bushes during the past fifteen years. Not one has lived more than five years; fourteen have failed to become established during the summer months, and seven more have winter-killed. There are now only two alive, and these, set out in 1922, were mean, scraggly stalks throughout the summer of 1926. One provided four blooms in the entire season; the other blessed us with seven.

Among the yellow and orange varieties, Souvenir de Claudius Pernet is sturdiest, while Duchess of Wellington, Old Gold, Irish Fireflame, Mrs. Oakley Fisher, and Rev. F. Page-Roberts are most prolific. Mrs. Aaron Ward, Constance, Mabel Morse, Mrs. Wemyss Quin, Mme. Ravary, Margaret Dickson Hamill, and Mme. Edouard Herriot are all good; but Golden Emblem, Christine, and Melody, while producing beautiful blooms, are too tender for us.

Of the Dwarf Polyanthas, so desirable because the majority are both perpetual blooming and of stout growth, the best include Eblouissant, Miss Edith Cavell, Ellen Poulsen, Erna Teschendorff, Gruss an Aachen, Jeanne d'Arc, Katharina Zeimet, Mrs. Wm. H. Cutbush, Orléans, Rödhätte, Verdun, and Yvonne Rabier.

A very few of the climbing roses have performed creditably here: American Pillar, Crimson Rambler, Dorothy Perkins, Dr. W. Van Fleet, Excelsa, Flower of Fairfield (which blooms right through into September), Paul's Scarlet Climber, the old Prairie Queen, and Tausendschön are all satisfactory.

The range of varieties I have listed as doing well here ought to convince anyone that cultivation of the rose is proceeding apace in Canada.

Thomas, Pemberton, and Lambert Roses

By WHITMAN CROSS, Chevy Chase, Md.

EDITOR'S NOTE.—Mr. Cross' delightful rose-garden has been before described (see page 115, 1925 Annual) in these pages. He now brings to us the results of careful observation of certain important roses.

FOR the information of my fellow members, I submit experiences with certain roses during the last two to three years in my garden at Chevy Chase, in Maryland, on the northwest border of the District of Columbia. This is near the northern line of the Hybrid Tea belt, where winters are less severe than they are a short distance to the north.

I have had growing for about three years all the varieties of the Bloomfield "everblooming shrub roses" of Capt. Thomas,* now offered by Bobbink & Atkins, namely: Bloomfield Culmination, Bloomfield Dainty, Bloomfield Discovery, Bloomfield Fascination, Bloomfield Mystery, Bloomfield Rocket, and Mrs. George C. Thomas. They are given ample room in enriched garden soil. All have developed approximately according to the introducer's descriptions, and yet they are more or less disappointing—perhaps because anticipations were too high.

All varieties, except Bloomfield Rocket, have formed bushes 5 to 6 feet high, with some leaders 8 feet or more high, emphasizing the semi-climbing habit. The foliage is rather scanty, and I believe the plants may be more effective trained on trellises. As a shrub, Bloomfield Rocket is the best, with upright, heavy canes and larger leaves and blooms than the others.

The foliage is by no means immune to black-spot, and the lower branches of all varieties were quite denuded in autumn. It must be confessed that they have not received such special protection from this pest as they will get in the future.

All of them have the charm common to most single roses when closely examined. Rocket and Culmination have the strongest pink color, which they hold for a day or two; Discovery and Mystery are lighter pink and fade more quickly and the quantity of flowers is less. Fascination and Dainty are

*Several of these roses were illustrated in the 1920 and 1922 Annuals.

indeed fascinating as their orange or yellow buds open to flowers an inch across of yellow or fawn color, which fades very rapidly—even by noon on hot days. The former loses its petals the second day, while the latter retains them two or three days. If they only held their color for even one day!

Mrs. George C. Thomas is also beautiful at first, in delicate shades of yellow, salmon, and pink, but its loveliness is very fleeting. I hope these blooms last longer in cooler zones.

All these roses are at their best in June, but even then the bloom at any one time is not profuse and hence the decorative effect is less than one could wish. Culmination, perhaps, blooms most throughout the season and is easily the best in autumn; but all kinds flower intermittently, particularly at the end of new shoots in summer and fall.

Judging from my experience, these Bloomfield roses are rather an interesting promise of better things for the future to result from Capt. Thomas' skillful creative work, more than a final achievement, such as some of the names suggest.

Of the Lambertiana group I have tried half a dozen kinds as hedge plants or single shrubs. The catalogue statements that these new roses are "valuable as strong shrubs and most interesting as a step forward in rose culture" are justified, particularly with respect to recurrent bloom.

The most successful are Schiller and Von Liliencron, which form excellent shrubs (requiring some staking of the heavier shoots) rising 5 to 7 feet, with graceful, drooping outer branches. The foliage is good and persists until frost. In spring, these bushes are masses of white, with some yellow or pink shading, and they tend toward recurrent blooming, especially Von Liliencron. These aftermaths do not equal the June outburst, but the bushes are seldom without bloom.

A short hedge of Hauff, Lessing, Schiller, and Schubert ("Excellenz von"!—but easily contracted) is a joy to behold in June as a mass of white, produced by a multitude of small flowers showing shades of pink or yellow on close examination. These varieties vary in value of foliage, Hauff and Lessing losing a large part of theirs in summer, except on the long, new shoots. The many brown hips, which last until winter, atone in part for the loss of leaves. Recurrent bloom is largely on the ends

of the vigorous shoots and appears until late in autumn. Perhaps the last-mentioned sorts would be more successful as climbers.

I have discarded Uhland, as lacking in special interest.

My experience with the Pemberton Roses is slight, but such as to make me order several new varieties for trial. Pax is quite a success. It is a large, flat, white rose of few petals, borne almost continuously until frost. The bush is tall, to 6 feet, and straggling, its longest shoots being of climbing habit. Planted beside a Climbing Gruss an Teplitz, their long branches mingle on an arch 9 feet high, making a pleasing combination.

Clytemnestra is a charming rose of another sort. It is a low, wiry bush which finds a suitable place beside a stone terrace wall, over which it climbs and sprawls. The foliage is attractive, disease-resistant, and still perfect in November. The delicate variegated flowers come in clusters, and, while not profuse, are worth while the season long, developing in the latter part of the year, much after the habit of Ghislaine de Feligonde, at the ends of new shoots. It is a cheerful, friendly little rose.

Daybreak forms a vigorous, low bush with profuse yellow buds opening to dainty white flowers, but the petals of fading blooms turn brown, curl up tightly, and soon spoil the appearance of the bush unless they are removed daily. This condemns it for a garden of many roses. I have tried Thisbe but did not find much merit in it. Both of these have been discarded.

I cannot close without referring to the new climber, Mermaid.* It surely deserves all the extravagant adjectives applied to it. To me, it seems almost the most charming of all roses in individual blooms. Luckily it appears to like our climate. It grows very vigorously and has foliage of the best quality.

Two observations may be of value. My most vigorous plant took two full years to become properly established; then it grew rampantly. Last spring I found that much of the outer wood of long branches, appearing to be dead or doomed, finally quickened and produced good blooms and growth. A little caution in spring pruning may save much valuable bloom, and no one can afford to lose that!

*Mermaid is a Hybrid Bracteata rose sent out in 1918 by W. Paul & Son, and is all that Mr. Cross says of it as seen in Breeze Hill Garden. It will repay anyone for care, for each bloom is a rose event. A friend, recently in England, advises that over there the practice is not to prune Mermaid at all!—EDITOR.

Color Standardization for Roses

By H. S. TILLOTSON, Philadelphia, Pa.

EDITOR'S NOTE.—That it is most desirable to have well-considered color standards for roses needs no argument. That certain existing attempts at standards are inconvenient and inadequate is apparent to anyone who has had much to do with rose descriptions.

Neither the French color-charts nor the American "Ridgway" permit exact recording of rose colors. This is for two reasons: First, the charts are printed, with mineral pigments as the base of the inks used, the resulting color sensation being wholly that of *reflected* light, while a rose petal is luminous because of the combination in the color sensation of reflected with the *transmitted* light that shines through the petals. Much the more important reason is that no rose petal is ever the same shade throughout, wherefore no single color reference can be adequate.

A recent German method, now under experiment, provides a great variety of shades in small blocks, to be seen through an opening in a black card. It was possible in trial to record fairly well the color of the Angéle Pernet rose, but only by reference to some six color blocks!

A plan for providing shaded color strips is also under consideration, and this is somewhat hopeful. All these propositions are mechanically difficult as well as very expensive.

Attention is asked to Mr. Tillotson's statement, and comments are invited, in the hope that something worth while may result.

WE, WHO KNOW so well the delicate beauty of the rose, find it extremely difficult to translate her subtle charms into words, and it is not surprising that there is a strong tendency toward poetic abandon when attempting a description of some exceptional variety.

Thus, the catalogue writers cannot be altogether blamed when a rose is described as "glowing shell-pink, shaded rich apricot" or "deep crimson, heavily overlaid orange-crimson, suffused deep salmon and coppery yellow." It is, when we make our purchases on the basis of such descriptions, only to find the newcomers closely resembling roses bought under a very different array of adjectives, that we begin to realize the difficulties involved in color standardization.

Yet, is it not possible to bring about an agreement among the interested horticultural organizations, by means of which the purchaser might confidently select his plants with the aid of an officially recognized color chart?

The primary difficulty that confronts us lies in the "fleeting" tendency of many pigments, and the distressing fact that despite

great improvement in the ink-maker's art, absolute color permanence has not yet been attained. This makes devising a standard color chart a hard nut to crack; and if we seek to convey our own impression of a rose's color to others, how may we describe the slight differences in shade that characterize a given variety?

To meet the situation, an agreement on color classification, based on fresh pigments or ink, might be reached and afterward official color charts might be printed for general sale at a moderate cost. Such charts might contain color samples in gradation, each shade numbered, as crimson 1, flesh-pink 3, apricot-yellow 6, etc.

The charts might be dated at time of printing and covered by a flap of waxed paper or protected against atmospheric changes by other means. As an additional precaution, they could be kept in light-proof envelopes until needed. Such a chart would probably be a valuable aid, not only to the rosarian, but also to the growers and purchasers of other plants.

Another phase of the color problem involves the reproduction of the rose's scintillating tints by the photo-engraving process. Those who have admired the color illustrations in the American Rose Annual have noted a steady improvement in the etcher's art, yet there is often lacking the indescribable "something" that, perhaps, only the rosarian would miss. As the craftsman to whom this work of reproduction is entrusted must make a profit from his work, the time that he may devote to it is necessarily limited. Then, again, the etcher may be unfamiliar with the natural color of his subject, and as this work is frequently done at a season when fresh flowers of a particular variety are unavailable, he must depend upon a description for its shades.

This is obviously unsatisfactory, and here a standard color chart would prove of value, by giving the etcher a practical starting-point for his work.

Fully recognizing the difficulties that must be faced, I nevertheless feel that the question of color standardization is worthy of the earnest consideration not only of our own society, but also of other horticultural organizations. We would find, I am sure, hearty cooperation in any such effort.

Considering New Varieties

By CAPT. GEORGE C. THOMAS, Jr., Beverly Hills, Calif.

Editor's Note.—No rosarian in the United States has paid so much attention for so long a time to the testing of the world's new roses as has Capt. Thomas. He is eager for better roses, and elsewhere in this Annual (see page 18) has given valuable suggestions from his extensive experience, for the breeders, of new roses. With this background of wide knowledge and great experience, his judgment as to the value of new varieties assumes great importance. In correspondence, Capt. Thomas has deprecated the flood of new and not worthy roses each year dumped into commerce.

TWENTY-FIVE years ago, when Dr. Robert Huey initiated me into the mysteries of rose-growing, only a few new varieties were produced annually, but now, testing new kinds is a different proposition; their numbers are appalling, and their average value not high.

There are two ways of considering new roses, and two ways of selecting what may be called a superlative list. Such a list should contain only varieties good over almost the entire country—roses which, grown anywhere, have practically all the virtues and only minor faults. Or, such a list might contain the best sorts for one particular district, and be considered a special list for that district.

New varieties should be judged in the same way, either as universal or specialized roses. They always are untested; they cost more than established kinds, and they are often overpropagated from weak stock. For a time they may be failures and afterward improve.*

A good rule in regard to new introductions from abroad would be not to try them before their second year in America. This might insure better stock and some chance to pick and choose.

Further, we are prone to test too broadly or too narrowly; either we get everything, whether adaptable to our conditions or not, or we have a fad and try for that, letting other things alone. One man tries yellows; another Hybrid Tea climbers, or whatever he prefers. It would be far better for him to test the classes of roses best suited to his district.

*An explanation of this phenomenon may be found in Mr. W. L. Bredero's article on page 75.

For example, in the North, where hardiness is the essential, the experimenter might try new hardy climbers, Hybrid Perpetuals, and Rugosas. Consider the new yellow Rugosa, Agnes. How many are testing this in our cold zones? Yet it provides perhaps the best chance for a new yellow rose in the North.

In central zones, where the winter is more moderate, the hardiness requisite is not so urgent. Hybrid Perpetuals, hardy climbers, and Rugosas are not so interesting as new colors among the Hybrid Teas and everblooming climbers.

In more southern climates, hardiness means little, and many roses there give new colors and continuous bloom. There it is logical to try for better stems and better form in all colors; also for roses which hold their foliage throughout a long season.

In the South, Hybrid Perpetuals often give more than one period of bloom, yet we seldom hear of new sorts being tried in the southern zones.

Where it is damp, near the ocean, the test might be of fairly thin roses which do not mildew or ball; and where it is dry and hot, test for full-petaled kinds which last and retain foliage.

In the Pacific Northwest the field is broader, but why grow roses with one blooming period in that section? In the southern California seacoast, mildew is very bad in certain seasons, and Teas are superior to Hybrid Teas in this respect, holding their foliage better than Pernetianas or Hybrid Teas.

It is likewise advisable to test new roses to supply a color in which there is no satisfactory kind among the standards. Testing for the general superlative list is more disappointing than testing for your own garden's needs, but the result is vastly more important. Some day, perhaps, we will have conditions which will provide special lists for various zones, as well as a superlative list for all zones.

Elimination goes on endlessly; yet how many roses have supplanted our finest dwarf sorts of universal usefulness in the past ten years? What would be included in a list of a dozen superlative dwarf roses of ten years ago, and for 1927?

In a specialized list for any one climate, how many of the dozen dwarfs in the universal list would be included, and how many discarded?

To try out this question, let us consider a superlative list of

ten years ago, and compare it with new introductions. Here is the 1917 universal list of dwarf roses of cutting value:

In *Red*, Ulrich Brunner, General MacArthur, Red Radiance, Laurent Carle.
In *Pink*, Georg Arends, Mme. Segond Weber, Los Angeles, Radiance.
In *Shades of Yellow*, Duchess of Wellington, Souvenir de Pierre Notting, Mrs. Dunlop Best, and Mme. Edouard Herriot.
In *White, and Light Shades*, Frau Karl Druschki, Kaiserin Auguste Viktoria, La Tosca, and Ophelia.

As alternates or substitutes, we can name: Hadley, Robin Hood, Gruss an Teplitz, Columbia, Clara Watson, Lady Ashtown, Golden Emblem, Lady Hillingdon, Mrs. Aaron Ward, Lady Plymouth, Wm. R. Smith, and Mrs. Charles Bell.

Now what new roses seek entry into this universal group? You will say at once: "How about Lord Charlemont in reds?" My answer is: It is a poor grower in southern California, with die-back and deaths on Multiflora or Ragged Robin, and I doubt its hardiness. The Queen Alexandra rose loses its foliage badly; I cannot vouch for its hardiness.

Mrs. C. W. Edwards has little perfume, and it mildews; how about its hardiness? Bloomfield Progress is not hardy enough for the North. The new pink, Dame Edith Helen, promises much, but is as yet untested.

Among the pinks, Rose Marie was just outside our ten-year limit, being introduced in 1918. It is a fine rose, and although it mildews somewhat, it is equal to the best given. But it is not included in the first 12 in the 1925 or the 1926 American Rose Society Referendum, or in "Proof of the Pudding," 1926, or probably in this year's "Proof."

In yellows we have Souv. de Claudius Pernet, Rev. F. Page-Roberts, Roselandia, and Golden Ophelia, all well-thought-of new kinds. The first has improved in some places, but not here.

Golden Emblem is a better rose in my garden, and Climbing Souvenir de Claudius Pernet supersedes the dwarf; but Rev. F. Page-Roberts breaks into my list here, although the growth is poor, and it loses foliage. It remains to be learned whether Rev. F. Page-Roberts is hardy in the North.

Golden Ophelia is superseded here by its climbing sport, but Roselandia is very fine with me. Its foliage is absolutely perfect, and, coming from Ophelia, it ought to be hardy in most places.

Souv. de H. A. Verschuren has too much mildew on the

southwestern seacoast, and does not open well; therefore, it should not receive a place.

In light-colored kinds there are no intrusions. Mrs. Charles Lamplough, Edel, and Mrs. H. R. Darlington cannot displace anything here, and I doubt if they can in all other sections.

As far as my opinion goes for the superlative list, we have but three contenders: Rose Marie, Rev. F. Page-Roberts, and Roselandia. Do not forget that no Hybrid Perpetuals can displace Ulrich Brunner, George Arends and Frau Karl Druschki; they are everbloomers here and in the Pacific Northwest, and often in the South. Therefore, they stand alone for a country-wide selection.

A specialized list of the most useful roses for Southern California would be an entirely different matter; but the superlative list for everywhere is hard to change. In fact, I do not think that any 12 new roses introduced after 1917 could equal the given list of old kinds. The foreign growers are flooding us with varieties that are no advance over existing kinds, and they are doing the rose world harm in consequence. When worthwhile new sorts do appear, it will be hard for them to secure recognition.

[The Editor takes advantage of his opportunity to put in a good word for a few widely successful roses which Captain Thomas has not discussed.

Etoile de Hollande has surely superseded Laurent Carle in real garden quality, although it is not yet so well known. Miss C. E. Van Rossem, George C. Waud, Charles K. Douglas, Mme. Meha Sabatier are all better with us than General MacArthur; and while Red Radiance is impregnable in its class some place must be found for General-Superior Arnold Janssen.

In pinks, Mme. Segond Weber is far outclassed by Mrs. Henry Morse, and room must be found, even at the expense of Los Angeles, for Willowmere and Betty Uprichard. What are we going to do with such fine pinks as Mama Lamesch, Elsie Beckwith, Mrs. Henry Bowles?

In yellow, Souvenir de Claudius Pernet and Eldorado are certainly superior to Souvenir de Pierre Notting for the greater part of the country, and Independence Day must claim a place if we have to sacrifice Mme. Edouard Herriot, which belongs among the pink roses anyway.

In the white and light colors, where is the virtue of Kaiserin Auguste Viktoria? It is a beautiful old thing which blooms so seldom that one has to learn to know it all over again each season. Where is Lady Ursula in this list, or Lady Pirrie? What are we to do with La Champagne, Mme. Poincaré, Mrs. Wm. C. Egan, all splendid roses? And where, oh, where is Mme. Butterfly?

The Editor acknowledges that some of his suggestions are more than ten years old—what matter? Is Lady Alice Stanley less handsome for her age, or is Willowmere to be decried because it is older than Los Angeles?]

Patience for the New Roses

By G. F. MIDDLETON, Treasurer Seattle Rose Society, Seattle, Wash.

EDITOR'S NOTE.—Here is a good word for the newer roses, which elsewhere come in for plenty of criticism. Mr. Middleton is right in asking patience for the newer sorts, the weak plants of which are often the result of over-propagation, as suggested elsewhere in Mr. Bredero's discussion of bud selection.

IT IS hardly fair to condemn any new rose variety until it has been tried for at least two years, and even then its real worth may not have developed. Somehow I cannot agree with the conclusions of Capt. George C. Thomas, Jr., in his article, "Standard Lists and New Varieties," in the 1926 Annual. He says he has thrown away as absolutely useless over 90 per cent of the newer varieties which he had grown less than two years. Surely he realizes that certain roses may do well or ill in different climates and soil conditions, and he should be willing to wait at least two years, perhaps trying the same variety on different stocks. I do agree with him that the American Rose Society ought to publish a standard list of roses—roses that are known to be reliable for different climates, etc.

While I have not a 100-acre field, a dozen gardeners, an abundance of index clerks, or spare cash to provide the conditions Capt. Thomas suggests as necessary to try out the untested unknowns, I certainly have found it both possible and worth while on a large city lot to experiment there with the newer varieties, and I have been fully compensated for the effort. There is something fascinating about purchasing "the very latest," and I do not expect more than 50 per cent at most, or 25 per cent at least, to be a decided improvement on anything already widely grown.

Let him try Paul's Lemon Pillar for a white or light-colored rose or for a climber as well. What a thrill this glorious rose gives, and every bloom a perfect one on strong stems and beautiful foliage; and what fragrance! The rose is also one that can stand the rain. It has all the wonderful qualities of Frau Karl Druschki and Maréchal Niel combined. Can anyone find fault with Aspirant Marcel Rouyer, Feu Joseph Looymans, Independence Day, La Champagne, Mabel Morse, Lord

Charlemont, and many others? Even some of the newer ones show great promise, and by the end of next year I will know their true worth.

I have lived in my present home only a year. When I came here the ground was in a wild state, needing special attention and a lot of hard work which was done by myself. I moved over 125 plants from my former home, and by the end of April of this year had planted 220 bushes. Making lawns, trellises, arbors, and the like also took a lot of my time, but I have been entirely repaid by wonderful growth and many choice blooms, and even now, almost November, I gather many lovely blooms daily.

My friend, Roland Gamwell, of Bellingham, Wash., was very anxious that I send pictures to you showing what can be done in one year without help, and I therefore* enclose several pictures taken a few months ago. These snapshots show Mabel Morse 3 feet high, Climbing Lady Hillingdon up to 12 feet, and all with lovely thick canes. Climbing Hoosier Beauty and Paul's Lemon Pillar have each a dozen or more fine long, thick canes and will completely cover the arbor. Even the newcomers from Ireland, like Ellen Terry and John Russell, are over 2 feet high. Therefore I am looking forward with pleasure to next year's bloom, and know I will not be disappointed.

"The Proof of the Pudding" in the last Annual was one article of great interest and help, and I hope it will be continued in every Annual. [Mr. Middleton proved his interest in the article mentioned by contributing largely to the symposium in this year's Annual, page 127. The Editor urges all who feel that the "Proof of the Pudding" is worth publishing to do as Mr. Middleton has done. The value of the article depends upon receiving first-hand reports of the way roses behave in as many different locations as possible. What is wanted is not so much the detailed description of the rose, as a succinct account of how it has performed in the gardens of our members. No one need be deterred because he grows only a few new roses. His opinions are as valuable as any one else's.—Editor.]

*The snapshots were, unfortunately, not clear enough for reproduction.—Editor.

The Proof of the Pudding—Again

ROSE EXPERIENCES SENT TO THE EDITOR'S OFFICE

THIS FEATURE, begun in the 1926 Annual, is continued upon the urgent request of practically all members who took the trouble to sign and return the cards which accompanied it. The Editor believes that this summary of rose-experience is interesting and most valuable, and that, if members join in making it, there results a trial-garden of country-wide extent. Obviously, both the value and the continuance of this report depend upon general participation.

In response to many requests, we have, this year, printed the name and address of the person reporting. (For street address, see Members' Handbook.)

Reports may be sent in at any time during 1927. Frankness, fairness, fullness—all these will help everyone related.

We have included reports on several Roses which were somewhat fully treated in the 1926 Annual because they seem to be important; and we have omitted numerous reports on certain varieties, such as Souvenir de Claudius Pernet, which are so well established and well known that information about them has ceased to be news.

ADMIRATION. HT. (McGredy, 1922.) A. R. A., 1923.

A good grower, producing fine flowers on strong stems. Mildews easily. Vermilion shadings more definite in fall. Blooms at times a little blunt.—*G. F. Middleton, Seattle, Wash.*

Excellent habit and blooms well, flowers well-shaped and lasting. Color is washy and never definite. Tried our best to like it and failed.—*Editorial.*

ADONIS. HT. (Bees, 1921.) A. R. A., 1921.

An exceedingly handsome, creamy white rose, but in spite of excellent growth and foliage, the plants did not bloom freely. Worth watching another year.—*Editorial.*

ANGÉLE PERNET. HT. (Pernet-Ducher, 1924.) A. R. A., 1924.

Medium-sized buds and full flowers of red-orange and chrome-yellow; the most beautiful copper-colored rose.—*A. N. Decker, Old Lyme, Conn.*

Large ovoid buds; flowers of open form, good lasting quality, and slight fragrance, borne singly or several together on long, strong stems. Color is like an Early Crawford peach, edged with fawn, the back of the petals yellow. Is semi-double, of the Killarney type. Foliage is glossy and resistant to disease. Open habit (3 feet); bore 54 blooms and was uninjured last winter.—*W. J. Boone, Caldwell, Idaho.*

Medium-sized ovoid buds and double flowers of fair lasting quality and slight fragrance, borne singly or several together on medium, normal stems.

Salmon-buff-orange, with yellow splashes and at the base of the petals. Foliage glossy, bronzy, dark green, resistant to disease. Moderate, bushy growth; 16 flowers; froze to 7 inches.—*G. G. Whitney, Woods Hole, Mass.*

A good grower, producing fairly thick canes almost 3 feet long. Foliage very clean and free from mildew but is lost early in the fall. A striking color, but flower rarely of good shape. Some early fall blooms were perfect.—*G. F. Middleton, Seattle, Wash.*

See page 112, A. R. A., 1926. We liked it a lot last year, and found the color to compare closely with that of the gladiolus, Alice Tiplady. Grew scarcely at all the past season and produced only two flowers. We still have faith to go on with it.—*Editorial.*

ANNIE LAURIE. HT. (Stuppy Floral Co., 1922.) A. R. A., 1923.

Large ovoid buds and large flowers of the Killarney type. Foliage sparse and mildews. Moderate upright growth; 54 flowers in the season.—*C. M. Lessenden, Downs, Kans.*

A sport from the very popular Mme. Butterfly, and identical in all respects excepting that it carries a few more petals, thus remedying practically the only fault of the parent.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

ARIEL. HT. (Bees, 1921.) A. R. A., 1921.

Did well; a vigorous grower with good foliage not liable to mildew. Not as pretty as Independence Day and not as prolific, but much larger and of splendid shape; stems weaker.—*G. F. Middleton, Seattle, Wash.*

See page 112, A. R. A., 1926. Liked it better this year than Independence Day, because of its brighter and more permanent color.—*Editorial.*

BARBARA. HT. (W. Paul & Son, 1923.) A. R. A., 1924.

Of excellent shape and substance and one of the brightest orange-reds in the garden; but it bloomed so little that we fear it will never amount to much. —*Editorial.*

BARBARA ROBINSON. (A. Dickson, 1925.) A. R. A., 1926.

Creamy white flowers of fine form and shape, very freely produced. The plants were none too vigorous, but it is unfair to judge them by one season's growth. Of low, spreading habit and the stems were none too strong. Decidedly worth trying again.—*Editorial.*

BELLE CUIVRÉE. HT. (Pernet-Ducher, 1924.) A. R. A., 1926.

Almost a ringer for Angéle Pernet at first glance. A little more red in the color and of a cup-like shape. It bloomed so little that there was small opportunity to observe it. May be better next season.—*Editorial.*

BESSIE CHAPLIN. HT. (Chaplin Bros., 1921.) A. R. A., 1922.

We saw no blooms 7 to 9 inches across as advertised. It was simply another pink rose, and nothing very attractive about it at that. We'll give it another trial.—*Editorial.*

BETTY UPRICHARD. HT. (A. Dickson, 1922.) A. R. A., 1923.

While in England, this summer, I noticed especially what a good rose Betty Uprichard is for color, size, productiveness, and foliage. It attracted the attention of all the public at the flower shows. If it does well here, it should be one of the coming roses.—*Nelson Coon, Rhinebeck, N. Y.*

Medium-sized, long-pointed buds and large, semi-double flowers of beautiful deep pink and flesh. Grew vigorously in early summer; not so good later.—*Marion M. Page, Mason City, Iowa.*

Medium-sized, ovoid buds and semi-double flowers of coppery pink with orange shades, of very good lasting quality and slight fragrance, borne singly on strong stems of medium length. Glossy, disease-resistant foliage; open habit (2 feet). Most attractive in its odd mixture of coppery pink shades.—*Dr. George T. Eliot, Oxford, Maine.*

Another bicolor rose. Inside of petals deep pink, outside silvery carmine—almost the reverse of The Queen Alexandra, but not so much contrast. A shapely flower on a good, long stem. Bush grew well; 9 blooms.—*Hugh Templin, Fergus, Ont.*

A good grower, with fairly thick canes, foliage liable to mildew; wonderful color and shape, but has few petals.—*G. F. Middleton, Seattle, Wash.*

See page 112, A. R. A., 1926. We like it more and more; seems one of the few worth-while recent sorts.—*Editorial.*

Black Boy. Cl.HT. (A. Clark, 1919.) A. R. A., 1924.

Excellent growth the first season, giving a few superb, dark red flowers, which blackened agreeably instead of fading. Much on the order of Carmine Pillar, but perhaps flowers are larger and darker. We liked it very much.—*Editorial.*

Briarcliff. HT. (Briarcliff Greenhouses, 1925.) A. R. A., 1926.

A higher-pointed Columbia, with medium to large pointed buds, and double, high-centered blooms of bright silvery rose with a slight golden base, and of very good lasting quality, borne singly on medium-length stems. Glossy, disease-resistant foliage; bushy growth (26 to 30 inches); 18 to 25 flowers in the season. The November flowers were particularly good.—*Wm. H. Scott, Abilene, Kans.*

So much like Columbia and its other seedlings and sports that we couldn't work up much interest in it.—*Editorial.*

Capt. F. S. Harvey Cant. (F. Cant & Co., 1923.) A. R. A., 1923.

This rose will surely make good. Its salmon-pink color, with scarlet veins and yellow shading is surely attractive; perfectly shaped blooms of splendid size. Fairly vigorous and free from mildew.—*G. F. Middleton, Seattle, Wash.*

Capt. Ronald Clerk. HT. (McGredy, 1923.) A. R. A., 1925.

Much too single ever to be important, but exceedingly vivid in color, and blooms well. If it had ten times as many petals it would be a good rose. The plants were low and spreading.—*Editorial.*

City of Little Rock. HT. (E. G. Hill Co., 1924.) A. R. A., 1925.

Medium-sized, long-pointed buds and cupped, high-centered flowers of fair lasting quality, pink and hydrangea-pink. Foliage resistant to disease; bushy growth (26 inches); 22 flowers in the season.—*Wm. H. Scott, Abilene, Kans.*

Type, Lady Ashtown. Medium to large, pointed buds and high-centered flowers of bright glowing rose, darker in center, similar to Lady Ashtown; very good lasting quality; strong tea perfume. Foliage black-spots; growth upright; a moderate bloomer. Similar to so many pink ross that it is unnecessary.—*Editorial.*

Clovelly. HT. (Hicks, 1924.) A. R. A., 1925.

Upright growth but not very vigorous. Foliage mildews. Blooms rather thin but of good shape. Not as good as Una Wallace.—*G. F. Middleton, Seattle, Wash.*

See page 113, A. R. A., 1926.—*Editorial.*

COURTNEY PAGE. HT. (McGredy, 1922.) A. R. A., 1923.

A poor grower and flower of poor shape, but very fragrant. Had a few fall blooms which, while not large, were wonderful, and will try it another year.—*G. F. Middleton, Seattle, Wash.*

See page 113, A. R. A., 1926. We are through with it.—*Editorial.*

DIADEM. HT. (McGredy, 1922.) A. R. A., 1923.

Large, pointed buds and flowers of full, double form, dark salmon-pink, unfading, very lovely, of very good lasting quality, moderately fragrant, borne singly on strong stems of medium length. Foliage resistant to disease. Plant vigorous and bushy; a moderate bloomer; stems erect. Most desirable for the garden. Resembles Souvenir de George Beckwith and Souvenir de Georges Pernet very much.—*Dr. George T. Eliot, Oxford, Maine.*

Crimson with orange tinge; outside of petal lighter than inside; color good. Bush was weak; 4 blooms; short stems—*Hugh Templin, Fergus, Ont.*

See page 113, A. R. A., 1926. Failed to make much impression at Breeze Hill. The few flowers were very fine, but much lighter in color than either variety cited by Dr. Eliot, and the bush seemed weak although the flower stems were very stiff. Worth trying again.—*Editorial.*

DUCHESS OF YORK. HT. (S. Dickson, 1925.) A. R. A., 1926.

Easily the outstanding variety as regards color but, unfortunately, is not blessed with good shape. It has quite decided Pernetiana origin, and may die back in some districts, but it will need two or three seasons to establish the variety in this respect.—*H. H. Hazelwood, Epping New South Wales, Australia.*

Brilliant orange-yellow, but the flower is small, thin, and without shape. It may improve; it was very disappointing. We could see no difference between it and I Zingari.—*Editorial.*

EARL BEATTY. HT. (Chaplin Bros., 1923.) A. R. A., 1924.

For a new red rose it was not bad, but it seemed to have no distinction and only indifferent merit. It may improve.—*Editorial.*

EARL HAIG. HT. (A. Dickson, 1921.) A. R. A., 1921.

A wonderfully shaped, full rose of splendid color, but it needs growing well and therefore cannot be recommended for the garden. Not very vigorous, but a marvel as a standard. No mildew.—*G. F. Middleton, Seattle, Wash.*

ELDORADO. HT. (Howard & Smith, 1922.) A. R. A., 1924.

No good here; has a weak neck, and no form.—*C. B. Pond, Grand Junction, Colo.*

Large, globular buds and very double flowers of full form, pure yellow with no red streaks, slight fragrance, of very good lasting quality, borne singly on long, strong stems. Abundant, glossy foliage, resistant to disease. Vigorous growth (2 feet); 45 blooms in the season; uninjured in the winter.—*W. J. Boone, Caldwell, Idaho.*

Type of Miss Lolita Armour. Large, globular buds of yellow tinged red, and double flowers of cupped form, clear yellow, slightly fragrant, borne in clusters on medium-length, normal stems. Foliage resistant to disease; upright growth (3 feet); 26 flowers in the season. Has done as well as, if not better than, Souvenir de Claudius Pernet, and is just as yellow. I had California-grown plants on Ragged Robin.—*Dr. H. M. Helm, Beloit Wisc.*

Type of Miss Lolita Armour. Buds large, globular, golden yellow, flushed red; blooms very double, medium size, cupped, deep golden yellow, with notched petals, edged pink, and do not fade, of good lasting quality, moderate fragrance, borne singly on short, normal stems. Glossy foliage which black-spots slightly.

Upright growth (1½ feet). Although in a bed of Souvenir de Claudius Pernets which were badly black-spotted, it was almost free from the disease.—*R. Marion Hatton, Meshanticut Park, R. I.*

A favorite with us. The heavy flowers droop in wet and heat, but it has so much more substance and form than Souvenir de Claudius Pernet that we like it better.—*Editorial.*

Elizabeth Cullen. HT. (A. Dickson, 1921.) A. R. A., 1921.

Gave a few very attractive flowers but difficult to distinguish from a hundred others.—*Editorial.*

Ellen Terry. HT. (Chaplin Bros., 1925.) A. R. A., 1925.

Very vigorous, branching habit and free from disease. Blooms very full, perfect shape and last well, fragrant. Reminds me of a glorified T. F. Crozier, with a deeper color in the center, like the yolk of an egg. The raiser's description is accurate.—*G. F. Middleton, Seattle, Wash.*

We liked it too, although the plants were quite weak as the result of a hard time in the trip from England with Washington and F. H. B. "on the side." A very beautiful white rose, and when it gets stronger may be near the top.—*Editorial.*

Elsie Beckwith. HT. (Beckwith, 1922.) A. R. A., 1923.

Not very distinct, but a decidedly good rose, in blooming, length and strength of stem, and lasting quality of the flower. If it had a trifle more definite color, it would rank high among our favorites.—*Editorial.*

Elvira Aramayo. HT. (Looymans, 1922.) A. R. A., 1924.

Did not like it so much last year, but it is a wonderful flower this season. everybody here likes it.—*Mrs. Anna Saupee, York, Pa.*

Large, long-pointed buds and flowers of the La France type, with fair lasting quality and slight fragrance, borne on long, strong stems. It is red all the time. Foliage abundant, normal green, and medium size, mildews. Compact, upright-growing (1½ feet); 31 flowers in the season. Planted April 1, 1926.—*W. J. Boone, Caldwell, Idaho.*

Unlike any other rose I know. It has a slight resemblance to a carnation. The orange-scarlet buds are of medium size and long-pointed; flower small semi-double, the base deep orange, shading into orange-scarlet, very brilliant, paling to cerise-rose as it develops, of open form, good lasting quality, slight fragrance, borne several together on short, normal stems. Abundant, glossy foliage, resistant to disease. Upright, symmetrical growth (2 to 2½ feet); 72 flowers in the season; uninjured by winter. Murderous thorns! Color so dazzling it kills other rose effects. Excellent for a decorative vase.—*A. J. Webster, Toronto, Ont.*

See page 114, A. R. A., 1926. A rose remarkable for brilliance and profusion of bloom. We like it.—*Editorial.*

Etoile de Feu. HT. (Pernet-Ducher, 1921.) A. R. A., 1922.

Large, full flowers, salmon-pink, shot with flame-color, borne singly. Too tender for this climate.—*A. N. Decker, Old Lyme, Conn.*

See page 114, A. R. A., 1926. We think it the best of its type, although its growth is very dwarf and spreading, and it is none too free with its flowers.—*Editorial.*

Etoile de Hollande. HT. (Verschuren, 1919.) A. R. A., 1921.

Showing a great deal of promise.—*N. A. Reasoner, Oneco, Fla.*

Wish I could get a white or a pink rose as good.—*W. A. Morgan, Vicksburg, Miss.*

Medium-sized, ovoid buds and medium to small, cupped, deep bright red, double flowers of good lasting quality and strong fragrance, borne singly or several together on long, strong stems. Soft, disease-resistant foliage. Moderate, upright growth (22 inches); bore 11 blooms in the season, its first. Judgment withheld for a fairer trial; disappointing thus far.—*Dr. H. M. Helm, Beloit, Wis.*

We have no hesitation in saying it is the best garden rose of its color at Breeze Hill, and we have a lot of red ones there.—*Editorial.*

Eva Teschendorff. D.Poly. (Teschendorff, 1923.) A. R. A., 1925.

A potted plant in the cool greenhouse at Breeze Hill gave charming flowers, but outdoors it amounted to nothing. The flowers were ragged, spotted with red and green dots, and scorched easily.—*Editorial.*

Feu Joseph Looymans. HT. (Looymans, 1921.) A. R. A., 1922.

La France type. Long-pointed buds and large, full flowers of good lasting quality, yellow and clear apricot, with a brighter center, slightly fragrant, borne singly on normal stems of medium length. Foliage resistant to disease; upright growth (16 inches); 3 flowers in the season.—*A. L. Hubbard, South Bend, Ind.*

Medium size, ovoid buds and large, double flowers of yellow-orange, suffused with apricot, of open form, good lasting quality, slight fragrance, borne several together on stems of medium length. Healthy foliage. Moderate growth; 7 flowers in season.—*G. G. Whitney, Woods Hole, Mass.*

A gem, and one of the best for some time. Anyone can grow it, and it produces grand blooms of perfect shape on good stems. The color is different from anything in the usual yellow and apricot shades. Plant fairly vigorous and has good foliage.—*G. F. Middleton, Seattle, Wash.*

Florence L. Izzard. HT. (McGredy, 1923.) A. R. A., 1924.

Fiarly vigorous; freee from mildew. Blooms of wonderful color but very poor shape. Cannot begin to compare with Mabel Morse.—*G. F. Middleton, Seattle, Wash.*

Gorgeous color and queer, lopsided shape. Plant grows sideways, and not very vigorously. Certainly a better color, and we would not say it was poorer shape, than Mabel Morse, for that rose has been next to non-existent with us. —*Editorial.*

Fontanelle. (E. G. Hill Co., 1927.) A. R. A., 1927.

Type, Golden Ophelia. Long-pointed bud and medium to large, double flower of apricot-yellow at base of petals fading to buff-white at the edges, with distinct yellow veins, high-centered form, very good lasting quality, and moderately fragrant, borne singly on extremely long, wiry, but strong stems. Sparse, disease-resistant foliage. Tall, bushy growth; free bloomer. The bud is excellent and opens slowly; the flower is attractive and we like it a lot.—*Editorial.*

Geisha. HT. (Van Rossem, 1920.) A. R. A., 1922.

Medium-sized, long-pointed bud and semi-double, apricot flowers, suffused with yellow, of fair lasting quality and moderate fragrance, borne singly on medium-length stems. Foliage resistant to disease. Vigorous, upright growth; 18 flowers the season.—*G. G. Whitney, Woods Hole, Mass.*

A medium-sized orange-yellow flower, striped with red, and having a weak stem.—*A. N. Decker, Old Lyme, Conn.*

See page 114, A. R. A., 1926. We have had no occasion to change our opinion of it.—*Editorial.*

Gold Mine. HT. (Jos. H. Hill Co., 1924.) A. R. A., 1925.

Type, Mrs. Aaron Ward. Medium-sized, pointed buds and double, high-

centered flowers of yellow, with the edges of petals nearly white and base very deep orange, of very good lasting quality and strong fragrance, borne singly on long, strong stems. An unusually good keeper, both on bush and as cut-flower. Foliage resistant to disease. Bushy (2 feet); 10 flowers in the season.—*R. Marion Hatton, Meshanticut Park, R. I.*

Longer buds and stems than Mrs. Aaron Ward, of Indian yellow color, paling toward edges and as flower expands—moderately fragrant. Resistant to disease. Grows 23 to 25 inches high; 20 to 28 flowers; blooms finest in autumn. —*W. H. Scott, Abilene, Kans.*

Golden Ophelia. HT. (B. R. Cant, 1919.) A. R. A., 1919.

Just fine.—*Mrs. J. P. Faulkner, Memphis, Tenn.*

Typically an Ophelia, with considerable yellow in it at times. Nothing startling about it; not as good, we think, as Souvenir de H. A. Verschuren or Roselandia.—*Editorial.*

Gwyneth Jones. HT. (McGredy, 1925.) A. R. A., 1925.

A great deal like Capt. Ronald Clerk in color, and seemes equally thin and shapeless. Doubtless time is required to establish them, but we despair of these single, flimsy things ever making real roses.—*Editorial.*

Gooiland Glory (said to be a seedling of Mme. Edouard Herriot × Gen. MacArthur) and Gwyneth Jones both show the uncommon, almost Indian red shade peculiar to Pernetiana varieties. Gwyneth Jones does not appear to be over-robust in growth, but will probably improve.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

Heart of Gold. HW. (Van Fleet; A. R. S., 1924.) A. R. A., 1925.

Shows good growth, good foliage, and is mildew-proof.—*G. H. Goring, Seattle, Wash.*

Type Dr. Huey. Medium-sized buds and flowers, single, of poor lasting quality, slight fragrance, borne in clusters on medium stems, crimson in color, with white ring around yellow stamens. Foliage glossy and resistant to disease. Moderate climbing growth (about 8 feet). A beautiful plant and flowers, but they drop too quickly.—*R. Marion Hatton, Meshanticut Park, R. I.*

Should be considered only as a pillar or for a decorative bush, in which use it is fine. The name is unfortunate and misleading, even if true at times.—*Editorial.*

Henry Nevard. HP. (F. Cant & Co., 1924.) A. R. A., 1925.

We had a few attractive flowers from three plants, rather badly abused in the trip from England, and hope for a better showing next season; worth watching.—*Editorial.*

Holt Hewitt. HT. (Beckwith, 1925.) A. R. A., 1926.

Pointed buds and double flowers which fade to magenta-blue, borne several together on short stems. Poor growth and intermittent bloom.—*John Barrows, Stratford, Conn.*

May improve, but at present its growth does not exceed 15 inches. Its description, as superseding George Dickson, is therefore somewhat of a joke. There are too many roses of Tom Thumb stature in commerce, and a revision of growth ideas is urgently needed.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

We had it, but that is all. The plants were weak and did not grow to amount to anything. The flowers were negligible. Another chance!—*Editorial.*

Ile de France. HW. (Nonin, 1922.) A. R. A., 1924.

A light red American Pillar, possibly an improvement. If it holds its red in

the off seasons when American Pillar has such a perfectly awful mushroom color, it will be worth having.—*Editorial.*

IVY MAY. HT. (Beckwith, 1925.) A. R. A., 1926.

Ophelia type. Silvery pink and creamy orange, pointed buds and medium-sized flowers of very good lasting quality. A free bloomer.—*John Barrow, Stratford, Conn.*

A seedling from Mme. Butterfly, and one of the richest colors amongst real Hybrid Teas for some years. It is a rich rose-pink, with a yellow flush, and if only blessed with a few more petals would be one of the best Roses ever grown for any purpose.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

I ZINGARI. HT. (Pemberton, 1925.) A. R. A., 1926.

Do not see why it should be called a Hybrid Lutea or a Hybrid Fœtida; it is exactly like all the other so-called Pernetianas which are really Hybrid Teas. Anyway, it won't be called anything long if it doesn't amount to any more than it did last season.—*Editorial.*

I Zingari and Rising Sun are loose, semi-double varieties with coppery old-gold shades, but the first-mentioned loses its shape very quickly and is rather a ragged bloom when open.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

JANET. HT. (A. Dickson, 1915.)

Fragrant, attractive blooms in color and form. Good growth and foliage. A rose to make an amateur proud.—*Mrs. Lewis Reichle, Detroit, Mich.*

This is a variety which has never attained great popularity, although it is a favorite at Breeze Hill for growth, blooming quality, and its superb buds. It is roughly in the Lady Pirrie and Mrs. A. R. Waddell class, and while in no way superior to either it is worth growing with them. It is way ahead of many later Dickson roses.—*Editorial.*

JOHN HENRY. HT. (Beckwith, 1925.) A. R. A., 1926.

Type of Mrs. W. J. Grant. Long pointed bud, with large, high-centered blooms of very good lasting quality and moderate fragrance. Vigorous, upright growth; continuous bloomer.—*John Barrow, Stratford, Conn.*

JOHN RUSSELL. HP. (Dobbie, 1925.) A. R. A., 1925.

Ovoid buds and large, globular flowers of deep maroon-crimson, of very good lasting quality, and no fragrance. Foliage healthy. Growth 4 feet; runs to legs in fall like George Dickson; 8 flowers.—*A. J. Webster, Toronto, Ont.*

A good grower, but foliage liable to mildew. Blooms crimson, veined like Hoosier Beauty but richer in color; blues. Its very strong stems remind me of H. V. Machin. A lot of the blooms are of poor shape, but when it is established it may do well. Lacks fragrance and is not a garden rose.—*G. F. Middleton, Seattle, Wash.*

Introduced as a Hybrid Tea but distinctly a Hybrid Perpetual. Excellent, dark crimson flowers, but scentless, and none too freely produced, although it did give a few flowers late in autumn. Has no business in a Hybrid Tea garden. —*Editorial.*

JOSEPHINE THOMAS. HT. (Howard & Smith, 1925.) A. R. A., 1925.

Type Lady Ursula. Medium-sized, long-pointed buds and very double flowers of flesh-pink, darker in center and yellow at the base, high-centered, of very good lasting quality, enduring a week on the bush, slight fragrance, borne singly on normal stems of medium length. Glossy, disease-resistant foliage. Moderate, upright growth (1½ feet); produced 9 flowers in the season. A beautiful rose and I like it.—*R. Marion Hatton, Meshanticut Park, R. I*

Medium-sized, ovoid buds and semi-double, full flowers of pale salmon, with cream-pink center and outer petals flesh-color, of good lasting quality and strong perfume, borne singly on normal stems of medium length. Laurel-like, disease-resistant foliage of very fine quality. Moderate, upright growth; 4 flowers in the season.—*A. L. Hubbard, South Bend, Ind.*

Killarney type [?—Editor]. Large, pointed buds and flesh-pink double flowers of good lasting quality, and moderately fragrant, borne singly on strong stems. Foliage mildews. Vigorous, upright grower; 7 flowers in the season.—*W. J. Boone, Caldwell, Idaho.*

One of the best all-round varieties, having good constitution and foliage, as well as blooms of high exhibition standard. The color is salmon-pink, shading to lighter tints.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

See page 116, A. R. A., 1926. We have seen no particular value in this rose. —*Editorial.*

June Boyd. HT. (McGredy, 1924.) A. R. A., 1924.

See page 117, A. R. A., 1926. In a general way, this is a subdued edition of Betty Uprichard. We like it, even in its faded state. Certainly it is not a rose to discard without extended trial.—*Editorial.*

La Champagne. HT. (Barbier, 1919.) A. R. A., 1921.

Large, pointed buds and semi-double yellow flowers with an apricot center and a pink suffusion, borne singly on medium length stems. Healthy foliage. Moderate, compact growth, (16 inches); 5 flowers. I think Cornelis Timmermanns is a better rose of the same class.—*A. L. Hubbard, South Bend, Ind.*

We have enjoyed it at Breeze Hill. Without being especially distinct, it has an elusive individuality that makes it stand out in the garden. Believe it deserves wide trial. See page 117, A. R. A., 1926.—*Editorial.*

Lady Florence Stronge. HT. (McGredy, 1925.) A. R. A., 1925.

Long buds and medium-sized flowers of mixed flesh and yellow with high-center, and very good lasting quality. Abundant foliage. Vigorous growth; freezes to 3 inches. A nice-looking rose but requires a longer test.—*John Barrow, Stratford, Conn.*

Ophelia type. Pointed buds and medium-sized flowers, yellow at base, shading into rose-pink, of full form, double, fair lasting quality, and slightly fragrant, borne singly or several together on normal stems of medium length. Foliage mildews. Bushy growth (2 feet); 22 flowers in season. Apparently a cool-weather rose like many others.—*A. J. Webster, Toronto, Ont.*

Coloring rather difficult to describe. There appears to be a suspicion of violet through a base of old-rose, with heavy veinings of a darker color.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

Attractive flowers, but so similar to a host of others that it failed to make any impression.—*Editorial.*

Lady Roundway. HT. (B. R. Cant, 1923.) A. R. A., 1924.

Independence Day type. Small, ovoid buds and semi-double flowers of bright apricot-orange which fade to creamy buff, are of poor lasting quality, with slight fragrance; borne singly on weak short stems. Foliage black-spots. Poor, dwarf growth; 10 blooms in six weeks. It is unfair to condemn it on one year's observation, but so far unsatisfactory.—*A. J. Webster, Toronto, Ont.*

Similar to Angéle Pernet in color, but plant is not vigorous, and the foliage very liable to mildew, which also attacks the spines.—*G. F. Middleton, Seattle, Wash.*

LE REVE. Per. (Pernet-Ducher, 1923.) A. R. A., 1925.

Le Rêve and Star of Persia seem so much alike that it is useless to grow both. Le Rêve holds its flowers fully two weeks longer, and has a peculiar and pleasing fragrance. Neither is a vigorous climber, and although they make fair pillars, we believe they will eventually fall into the shrub class, with Harison's Yellow and Persian Yellow.—*Editorial.*

LORD ALLENBY. HT. (A. Dickson, 1923.) A. R. A., 1923.

Truly a wonderfully colored crimson rose, with no markings, very double, and of perfect shape and size. Not a tall grower. Foliage clean. It is not a garden rose, but a gem for the exhibitor who will give it care.—*G. F. Middleton, Seattle, Wash.*

Type, Gloire de Chédane Guinoisseau. Very large, ovoid buds and double, cupped, high-centered flowers of light crimson, with blackish and scarlet shading, of very good lasting quality and slight fragrance. Abundant foliage, which mildews somewhat. Very vigorous, bushy growth and an abundant bloomer. This is a red rose of fine form and clean color which does not blue as much as most. We like it.—*Editorial.*

LORD CHARLEMONT. HT. (McGredy, 1922.) A. R. A., 1923.

A winner that everyone can easily grow; probably the best crimson garden rose introduced in years. Fairly vigorous, of branching habit. Foliage free from mildew. Bloom of ideal shape and good lasting quality.—*G. F. Middleton, Seattle, Wash.*

See page 117, A. R. A., 1926. We do not share Mr. Middleton's enthusiasm. Etoile de Hollande is certainly a much better red rose here, but their colors are so dissimilar it is unfair to compare them. Lord Charlemont is a very striking, non-blueing, blazing red, unlike any other rose we know. Its growth has been under par, and its blooming ability at a terrific discount.—*Editorial.*

LORD LAMBOURNE. HT. (McGredy, 1925.) A. R. A., 1925.

Large, ovoid buds and semi-double flowers of the lettuce type, of poor lasting quality, and no fragrance, pale yellow in color, edged with rose-pink. borne singly on strong stems. Healthy foliage. Vigorous growth (2 feet); 22 flowers. Shapeless and unattractive in flower; plant is satisfactory.—*A. J. Webster, Toronto, Ont.*

Perhaps too new to form an opinion, but believe it is over-rated. Flowers too floppy and not lasting; color like Sunstar, but not as pretty. Growth not vigorous; it may do better when well established.—*G. F. Middleton, Seattle, Wash.*

A great disappointment this year. We reserve judgment for another trial. —*Editorial.*

LOUISE CRINER. HT. (Chambard, 1919.) A. R. A., 1921.

Medium-sized bud and bloom of white, with a cream center; only fair. Consider it overrated.—*A. N. Decker, Old Lyme, Conn.*

Imported five years ago and lost before it flowered, it was successfully re-imported last season, and, except for a slight weakness of stem when poorly grown, promises to be one of the best white exhibition varieties.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

See page 117, A. R. A., 1926.—*Editorial.*

MARCIA STANHOPE. HT. (Lilley, 1925.) A. R. A., 1925.

Cannot agree in any way, with claim that it will displace Frau Karl Druschki, for the petals are too thin and foliage is unattractive and addicted to mildew. It has some fragrance, but not equal to Mrs. Herbert Stevens. Perhaps it will be better when well established.—*G. F. Middleton, Seattle, Wash.*

PLATE X. SOUVENIR DE GEORGES PERNET, a very effective decorative rose for the garden

Introduced by Pernet-Ducher in 1921
Reproduced by courtesy of The Conard-Pyle Company

A description of this variety originally declared it to be a seedling of Frau Karl Druschki, with all the parent qualities. This is only another evidence of the utter lack of value placed on constitution. The flower is of excellent shape and richly perfumed with a sweet fragrance, but the plant is a front-row variety and very liable to mildew and black-spot. It is distinctly an improvement as regards perfume amongst light roses.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

Margaret Horton. HT. (Hicks, 1921.) A. R. A., 1921.

Large, long-pointed buds and medium-sized, double, high-centered blooms of orange-yellow, suffused with apricot, of good lasting quality and moderate fragrance, borne singly on long, strong stems. Foliage resistant to disease. Vigorous, upright growth; 6 flowers.—*G. G. Whitney, Woods Hole, Mass.*

We like this rose. It has resemblances to Sunburst, Lady Hillingdon and Mme. Ravary, especially to the color of the last. It grows better than Sunburst, has a better neck than Lady Hillingdon, and blooms more and is more double than Mme. Ravary. Seems to have been buried for five years, but is worth resurrecting.—*Editorial.*

Mary Pickford. HT. (Howard & Smith, 1923.) A. R. A., 1924.

Medium-sized, ovoid buds and semi-double flowers of pale yellow with deeper center, of open form, fair lasting quality, and without fragrance, borne singly. Healthy foliage. Moderate growth and sparse bloom—4 in the season. —*G. G. Whitney, Woods Hole, Mass.*

A good yellow variety, with perhaps a fault in being somewhat like Souvenir de Claudius Pernet. It has, however, more Hybrid Tea blood, and will probably grow more vigorously.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

Not very distinct. We had it in the same bed with Souvenir de Claudius Pernet and could never tell them apart.—*Editorial.*

Mary Wallace. HW. (Van Fleet; A. R. S., 1924.) A. R. A., 1924.

Large, ovoid buds and full, double, pink flowers of good lasting quality, moderately fragrant, borne singly and several together on long, strong stems. Foliage mildews. Vigorous, climbing growth; uninjured in winter.—*W. J. Boone, Caldwell, Idaho.*

Type, Christine Wright. Long-pointed buds and very large cupped pink flowers of very good lasting quality, moderately fragrant, semi-double, borne several together on long strong stems, dropping off cleanly. Foliage resistant to disease. Strong growth (10 to 12 feet); bloomed for three weeks; tips freeze. Attracted more attention than any other climber in my garden.—*R. Marion Hatton, Meshanticut Park, R. I.*

Badly injured last winter although protected, probably due to ice standing everywhere during most of the winter. Beautiful, and may be hardy here with normal protection.—*Marion M. Page, Mason City, Iowa.*

Type Killarney, in flower. Cupped, semi-double flowers of good lasting quality and strong fragrance, of bright satiny pink color with golden glow in center from its stamens. Foliage resistant to disease. Vigorous grower (12 feet) bloomed in May, June, and August; tips freeze.—*Ruth O. Ericson, Riverdale, Md.*

Our experience tallies with Mr. Hatton's; a very fine climber, but we find that the dead flowers do hang on instead of falling off cleanly at all times though they are not so offensive as some. Attracts attention by its outstanding quality of color, which is impossible to describe.—*Editorial.*

MAUD CUMING. HT. (A. Dickson, 1923.) A. R. A., 1924.

Good; it holds both its shape and color, and I like it.—*C. B. Pond, Grand Junction, Colo.*

Our plants were very poor. We lost two out of three, and the survivor had no really representative bloom.—*Editorial.*

MME. ALBERT BARBIER. HP. (Barbier, 1925.) A. R. A., 1926.

Large ovoid buds and large double flowers, pearly white at the edge of petals, blending through flesh-pink to orange-yellow at the center, fading to soft flesh-pink; of very good lasting quality and slightly fragrant, borne singly on long, strong stems. Abundant, leathery, disease-resistant foliage. Compact habit (3 feet); blooms continuously; 33 flowers. A beautiful, lasting rose, but the thorns are vicious.—*R. Marion Hatton, Meshanticut Park, R. I.*

Large ovoid buds of yellow and apricot and large, cupped, very double salmon-yellow-buff flowers, fading to pale salmon, of good lasting quality, slightly fragrant, borne singly on medium stems. Leathery, disease-resistant foliage. Moderate growth; upright habit; blooms intermittently for four weeks. See no reason for classing it as other than Hybrid Tea, if the first season is typical.—*G. G. Whitney, Woods Hole, Mass.*

Medium-sized globular buds and very double flowers of full, open form, white, blended with pink, of very good lasting quality, moderately fragrant, borne singly on strong stems of medium length. Foliage mildews. Growth 15 inches; gave 20 flowers throughout the season.—*W. J. Boone, Caldwell, Idaho.*

At Breeze Hill, through some error, the plants were pruned to the ground when planted and never recovered. They bloomed persistently throughout the season on very short stems. Mr. Hatton describes the color best as we saw it. A promising Hybrid Perpetual of the Beauté de Lyon class.—*Editorial.*

MME. ALEXANDRE DREUX. HT. (Soupert & Notting, 1921.) A. R. A., 1922.

Small ovoid buds and double flowers of deep yellow-orange with a high center, good lasting quality, and slight fragrance, borne singly on normal stems of medium length. Leathery, disease-resistant foliage. Moderate, bushy growth; rather poor bloomer—6 flowers in the season.—*G. G. Whitney, Woods Hole, Mass.*

Large-pointed buds and large flowers of golden-orange trimmed with scarlet, of double, open form, good lasting quality, and slight fragrance, borne singly on long stems; drop off cleanly. Resistant foliage. Moderate growth (15 inches); moderate bloom—7 flowers for the season.—*W. J. Boone, Caldwell, Idaho.*

Small long-pointed buds and small double flowers of full form, good lasting quality and moderate fragrance, borne singly on medium stems. Foliage resistant to disease. Vigorous upright growth; 8 flowers in the season.—*C. M. Lessenden, Downs, Kans.*

Has been disappointing. We agree with Mr. Whitney's description of the flower, and think it extremely beautiful but small. The plants have neither grown nor bloomed well, and we are afraid it will not amount to much in the garden.—*Editorial.**

MME. BARDOU JOB. HT. (Dubreuil, 1914.)

An old rose which for some reason has been pushed recently. There is not really much to it. The pale yellow color is fair, but it balls considerably and is generally out of date.—*Editorial.*

*Two reports of this rose are illuminating. Being a Pernetiana, and therefore hard to grow from cuttings, it would seem that substitution has been in order for the own-root people. A report from Abilene, Kans., describes the flower as salmon-pink and says the plant is an own-root; a report from Riverdale, Md., says "the flower is of Lady Ursula type and orange-pink, and that it was planted out from a pot," which may or may not mean own root.—EDITOR.

Mrs. Beckwith. HT. (Pernet-Ducher, 1923.) A. R. A., 1924.

Did not do well enough with me to make a report.—*J. M. Hitt, Olympia, Wash.*

Large ovoid buds and large, double, globular flowers of clear cadmium-yellow, very beautiful of very good lasting quality and slight fragrance, borne singly on long stems. Foliage glossy and black-spots. Growth upright (2 to 2½ feet); 31 flowers in season. I am very fond of this rose. It gives a greater percentage of well-shaped blooms than any yellow rose I know.—*A. J. Webster, Toronto, Ont.*

See page 118, A. R. A., 1926.—*Editorial.*

Mrs. Courtney Page. HT. (McGredy, 1922.) A. R. A., 1924.

Pointed buds and medium-sized semi-double flowers of orange-cerise, open form, fair lasting quality, and slight fragrance, borne singly on normal stems of medium length. Foliage black-spots. Compact growth (1 to 1½ feet); 21 flowers in eleven weeks. Blooms are beautiful but lack substance, and the plant does not grow well for me.—*A. J. Webster, Toronto, Ont.*

A beautifully shaped rose of wonderfully attractive color. Plant not very vigorous so far, and foliage drops early in fall; troubled a little with mildew.—*G. F. Middleton, Seattle, Wash.*

Mrs. C. W. Edwards. HT. (McGredy, 1924.) A. R. A., 1924.

Medium-sized ovoid buds, and globular double flowers, orange at the base shading to orange-carmine, of fair lasting quality, with slight perfume, borne singly on strong stems of medium length. Glossy foliage which mildews. Upright compact growth (2½ to 3 feet); 48 blooms in the season. This variety has improved with acquaintance. I did not like it the first season, but it is a hard worker and the flowers are very attractive.—*A. J. Webster, Toronto, Ont.*

A vigorous grower of splendid shape. Foliage troubled a bit with mildew. Blooms of very attractive crimson-carmine color, with a yellow base; few blooms come with split centers, but, nevertheless, it is a good garden rose.—*G. F. Middleton, Seattle, Wash.*

At Breeze Hill, we had a few good-looking flowers, but they were so little different from a hundred other kinds, and there were so few of them, that we do not care if we never see it again.—*Editorial.*

Mrs. E. J. Hudson. HT. (Lilley, 1922.) A. R. A., 1924.

Large globular buds and double, even-toned pink flowers, much like Mme. Caroline Testout; of good lasting quality, and slightly fragrant, borne singly on normal stems of medium length. Foliage mildews. Upright, compact growth (2 to 2½ feet); an intermittent bloomer. I am not particularly fond of it.—*A. J. Webster, Toronto, Ont.*

Mrs. Erskine Pembroke-Thom. HT. (Howard & Smith, 1926.) A. R. A. 1926.

Seems to be a good yellow in the class of Mrs. Beckwith, with same upright growth, foliage, and thorns. I do not see enough difference to retain both. It is too early to pass final judgment, although I have both side by side on the same stock, and both maidens. They look alike.—*J. H. Nicolas, West Grove, Pa.*

Of the Mme. Butterfly type in shape, with more pointed leaves. Large, long-ovoid buds and large, open, semi-double, dark canary-yellow flowers, with darker center, of very good lasting quality and slight fragrance, borne singly on strong stems. Abundant, soft foliage, resistant to disease. Compact, branching growth (20 inches); 14 flowers this season. Stronger than Souvenir de Claudius Pernet and Duchess of Wellington, and more floriferous. The best

yellow rose in my garden this year, although I may change my mind about her next year.—*A. L. Hubbard, South Bend, Ind.*

We consider it a very promising yellow—better this season than Souvenir de Claudius Pernet, particularly as it has no black center. We are not so sure that it bloomed any better, or that its growth was as good. Certainly it has done much better for us than Mrs. Beckwith ever did.—*Editorial.*

MRS. GEORGE C. THOMAS. Cl. HT. (Thomas, 1921.) A. R. A., 1922.

A lovely thing; it will be better next year.—*W. M. Ladd, Portland, Ore.*

Wild-rose type, with about ten petals. Small pointed orange buds, and small semi-double flowers of open form, light pink, shading to gold in the center, of poor lasting quality and slight fragrance, borne singly on short stems, and drop off cleanly. Soft, medium-sized foliage, resistant to disease. Upright grower (5 feet); blooms intermittently through June, July, and August.—*Charles F. May, Yonkers, N. Y.*

Large, ovoid orange-pink buds and light pink semi-double flowers with yellow center, of open form, very good lasting quality, moderate fragrance, borne several together on long stems. Glossy resistant foliage. Growth about 4 feet; blooms from July until frost. A beautiful rose, both open and in bud, with a few blooms all the time.—*R. Marion Hatton, Meshanticut Park, R. I.*

A rather large, shrubby plant, now two years old, with one cane over 9 feet long, and another over 6. Bloomed very freely in June and July, and but sparsely afterward. Foliage good. We think it the most attractive of the "Bloomfield" roses. Facing page 125, in the 1922 Annual, a color-plate of this rose was presented.—*Editorial.**

MRS. HENRY BOWLES. HT. (Chaplin, 1921.) A. R. A., 1922.

A very double flower of splendid shape and deep rosy pink color. Plant fairly vigorous. Foliage somewhat troubled with mildew.—*G. F. Middleton, Seattle, Wash.*

The Editor and his assistant part company on this rose. The Editor thinks it is ordinary, and the Assistant thinks it is a "honey." His opinion is: "Clean, true pink blooms of perfect, semi-globular form and satisfactory fragrance. Blooms persistently all season. It is the best pink rose of recent years, and ought to be widely planted." Now what?—*Editorial.*

MRS. JAMES SHEARER. HT. (Ferguson, 1923.) A. R. A., 1924.

Plants suffered considerably in the trip from England. We had a few rather promising flowers. Being almost pure white, it deserves a fair trial.—*Editorial.*

MRS. J. HEATH. HT. (McGredy, 1924.) A. R. A., 1924.

Long-pointed buds and large, double, corn-colored flowers with a red flush, of good lasting quality and slight fragrance, borne singly on long stems. Foliage mildews. Bushy growth (about 15 inches); 8 flowers in the season.—*W. J. Boone, Caldwell, Idaho.*

Ophelia type, and not very remarkable, but upon the recommendation of those who have seen it abroad, we are watching it with interest.—*Editorial.*

MRS. LOVELL SWISHER. (Howard & Smith, 1926.) A. R. A., 1926.

La France type, pointed buds and large, semi-double flowers of coppery salmon with light pink edges, high center, good lasting quality, and strong fragrance, borne singly on strong stems. Healthy foliage, 16 inches high, poor bloomer. A beautiful rose that will not work.—*A. L. Hubbard, South Bend, Ind.*

We consider it closer to Mme. Butterfly than La France, with a pale coppery yellow color, becoming pinkish-cream with age. Do not consider it very distinct, and won't worry if we never see it again.—*Editorial.*

*See Mr. Cross' article in this issue page 116.

Mrs. Molony. (S. McGredy & Son, 1925.) A. R. A., 1925.

Semi-double flowers of carmine-red, rather commonplace; lasts well, borne singly on medium stems; compact growth 16 inches; too few blooms, and not worth while.—*A. L. Hubbard, South Bend, Ind.*

The color is rich carmine.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

Mrs. Redford. HT. (McGredy, 1919.) A. R. A., 1920.

Long-pointed buds and medium-sized, full, double, soft apricot flowers, with a yellow sheen, of good lasting quality and slight fragrance, borne singly on medium-length stems. Foliage normal and glossy. Growth poor; 5 flowers in the season.—*G. G. Whitney, Woods Hole, Mass.*

Radiance type. Ovoid buds and medium-sized, full, semi-double, apricot-orange flowers of good lasting quality with slight fragrance, borne singly on short, weak stems. Sparse foliage, resistant to disease. Straggling growth (1 foot); 5 flowers in the season.—*A. L. Hubbard, South Bend, Ind.*

Good.—*A. N. Decker, Old Lyme, Conn.*

See page 119, A. R. A., 1926.—*Editorial.*

Mrs. Wm. Sergeant. HT. (H. Dickson, 1923.) A. R. A., 1924.

Medium-sized, pointed buds and double, high-centered white flowers, flushed with rose-pink toward center, of good lasting quality and slight fragrance, borne singly. Foliage mildews. Vigorous growth (2 to 2½ feet); continuous bloom; 46 in season. Not much distinction in color; stems weak; otherwise very good.—*A. J. Webster, Toronto, Ont.*

Nur Mahal. H. Musk. (Pemberton, 1922.) A. R. A., 1922.

A rather dwarf bush rose, which perhaps will eventually fit into the Gruss an Teplitz and Birdie Blye group. The flowers are produced almost continuously, in clusters, and they are similar to Tausendschön in form, though not as double, and of a bright crimson-purple. Very attractive, and we like it as a shrub.—*Editorial.*

O'Junyent. HP. (Dot, 1924.) A. R. A., 1925.

Although guaranteed to have the habit of Frau Karl Druschki with the color of Mme. Edouard Herriot, has grown less than a foot high, and not very bushy. The flowers are attractive orange-pink, beautifully and regularly ruffled. We hope the growth improves, for it would then be a very attractive addition to the Hybrid Perpetuals in the Juliet and Beauté de Lyon group.—*Editorial.*

Padre. HT. (B. R. Cant, 1921.) A. R. A., 1920.

Type, Killarney. Large or very large pointed buds, and semi-double open flowers of scarlet, trimmed with gold, of good lasting quality and slight fragrance, borne singly and several together on normal long stems. Foliage mildews. Growth upright (3 feet); 60 flowers throughout the season.—*W. J. Boone, Caldwell, Idaho.*

It is surprising that there are no more reports of this excellent rose. It is round, cup-like, rather frail in texture, and the flowers nod if they get wet. The extraordinarily brilliant color lies somewhere between Mme. Edouard Herriot and Elvira Aramayo, but fades considerably the second or third day. The plants are tall, with sparse foliage, and should be planted very closely together in order to get a mass effect. It is one of the freest blooming of its type, and a most excellent decorative rose.—*Editorial.*

Phyllis Bide. Mult. (Bide, 1924.) A. R. A., 1925.

The Editor and his Associate again divide opinions. The Editor thinks this is a charming little everblooming climber, which he particularly likes early in the

morning because of its cheerful daintiness, while his Associate thinks it is a piffling thing which takes up the room for a good rose. So there we are!—*Editorial.*

PINK PEARL. HT. (Leenders, 1924.) A. R. A., 1925.

Type, Columbia. Medium-sized ovoid buds and very double, deep pink flowers of very good lasting quality and strong fruity fragrance, borne several together on medium-length stems. Foliage resistant to disease. Moderate growth (1 foot); 15 flowers in the season. Very much like a perfect Columbia, but a little darker pink and every bloom perfect; wonderful fragrance.—*R. Marion Hatton, Meshanticut Park.*

Type, La France. Ovoid buds and medium-sized, semi-double flowers, similar to Willowmere in color, of good lasting quality and slight fragrance, borne singly on stems of medium length. Disease-resistant foliage. Grows 1 foot high; 3 flowers in the season. It wins no gold medal in my garden.—*A. L. Hubbard, South Bend, Ind.*

We believe Mr. Hubbard has a misnamed variety because of his description of petalage and color. In general we agree with Mr. Hatton's report, except to say that the color is identical in its beefiness to Columbia, and that there is not an excuse in the world for such a repeat.—*Editorial.*

PORTIA. HT. (Bees, 1921.) A. R. A., 1922.

Type, Radiance. Large flowers of open cupped form, flesh-pink with rose tints outside, of fair lasting quality and moderate fragrance. Soft, large foliage, not attacked by disease. Moderate growth and bloom. Too much like Radiance and not as good.—*Editorial.*

PRÉSIDENT CHÉRIOUX. HT. (Pernet-Ducher, 1922.) A. R. A., 1924.

Plants received in such poor, weak condition that no estimate could be made of the rose.—*George T. Eliot, Oxford, Maine.*

Very poor when received; it really never had a chance—it was expensive, too!—*Marion M. Page, Mason City, Iowa.*

Bud coral and flower large, yellow with coral center, borne singly. High class.—*A. N. Decker, Old Lyme, Conn.*

Better this year than last; a good color.—*C. B. Pond, Grand Junction, Colo.*

See page 119, A. R. A., 1926.—*Editorial.*

PRINCESS GHIKA. T. (Nabonnand, 1922.) A. R. A., 1923.

A dark, wine-red—an unusual color in the Tea class—darker than any other true Tea we know. Probably will never amount to much at Breeze Hill, but it ought to be tried out thoroughly in the South.—*Editorial.*

PRINCE YUGALA. HT. (F. Cant, 1923.) A. R. A., 1923.

We agree with the raiser that the color of this rose is entirely distinct—an extremely dark, brownish crimson, with shadings of black and deep purple. Bloomed surprisingly well for such poor plants, and the flowers, although small, have excellent shape and texture. It is darker than either Chateau de Clos Vougeot or Friederichsruhe, and recalls the vanished shades of Prince Camille de Rohan, Empereur du Maroc, and Gloire de l'Exposition de Bruxelles.—*Editorial.*

QUEEN OF FRAGRANCE. HT. (W. Paul, 1915.) A. R. A.

Growth and foliage satisfactory. Color the rose-pink of Miss Cynthia Forde, with Centifolia fragrance. It has the charm of the old-fashioned roses and the blooming habit of the new.—*Mrs. Lewis Reichle, Detroit, Mich.*

Our experience with it has been disappointing. It has bloomed very little and its growth is extremely weak. The flowers have been insignificant, and the fragrance in no way remarkable.—*Editorial.*

Rev. F. Page-Roberts. HT. (B. R. Cant, 1921.) A. R. A., 1921.

Large, globular buds and very double, full flowers of golden yellow, with apricot suffusion, of good lasting quality and strong fragrance, borne singly and several together on short, strong stems. Leathery, disease-resistant foliage. Moderate, rather trailing growth; moderate, continuous bloomer; 11 flowers in the season. Rather slow in taking hold.—*G. G. Whitney, Woods Hole, Mass.*

Type, Duchess of Wellington, but much better. Very large, long-pointed, red buds and very double flowers of bright red, flamed with copper in bud, rich orange yellow with flame-flushed outer petals when half open, and golden yellow when fully open, moderately fragrant, borne singly on long, strong stems. Foliage resistant to disease. Vigorous grower (32 inches); blooms abundantly, considering size and quality, averaging 28 to each plant; fall blooms grand, with care.—*Wm. H. Scott, Abilene, Kans.*

Large, long-pointed yellow buds, with red blotches on outside petals, and very large, double yellow flowers which do not fade, of open form, very good lasting quality, and moderately fragrant, borne singly on strong stems of medium length. Foliage resistant to disease. Growth about 20 inches; blooms continuously. Most lovely and a steady bloomer; the best yellow rose I have seen.—*Dr. George T. Eliot, Oxford, Maine.*

Large buds and flowers double, fire-flame color, lighter at edge of petals, of very good lasting quality, strong perfume, borne singly on long stems. Sparse, disease-resistant foliage. Moderate growth and bloom; 25 flowers in the season. One of the best roses that has come to my notice.—*C. M. Lessenden, Downs, Kans.*

See page 120, A. R. A., 1926; and add our feeling that this rose is one golden grain in the bushel of chaff Europe has sent us in the last five years.—*Editorial.*

Roselandia. HT. (Stevens, 1924.) A. R. A., 1925.

Medium-sized buds and full, double flowers of orange-yellow, fading to buff, of good lasting quality and moderate fragrance, borne singly on medium length stems. Healthy foliage. Moderate, upright growth; 12 flowers in the season.—*G. G. Whitney, Woods Hole, Mass.*

We think it the best of the numerous yellow Ophelias and much better than Golden Ophelia, Mrs. Calvin Coolidge, and others of that type.—*Editorial.*

Rosette Delizy, T. (Nabonnand, 1922.) A. R. A., 1923.

Although called yellow by its introducer, this nice little rose reminded us very much of Mrs. B. R. Cant, with much exaggerated light shadings. Certainly it was more attractive than the old variety, and is well worth trying in the South.—*Editorial.*

Salmon Spray. D. Poly. (Kershaw, 1923.) A. R. A., 1924.

This Australian rose is classed by the introducer as a Hybrid Tea, but seems decidedly a Polyantha of the Rödhätte, Kirsten Poulsen, Else Poulsen, and Lafayette group, and with a strong resemblance to Chatillon. Attractive, although its trusses seldom opened many flowers at once. We hope it improves, because the color is delightful.—*Editorial.*

Saltaire. HT. (A. Dickson, 1925.) A. R. A., 1926.

A total loss; we were disappointed.—*Editorial.*

Scarlet Glory. (A. Dickson, 1925.) A. R. A., 1926.

A single, faded, floppy, flimsy worthless, pinkish thing here.—*Editorial.*

Shot Silk. HT. (A. Dickson, 1924.)

Blooms freely, and is worthy of a space in the garden.—*C. B. Pond, Grand Junction, Colo.*

A vigorous grower, of splendid habit. Foliage a lovely shade of light green and not troubled with mildew. Blooms of good shape but not very large, color very attractive, while its fragrance is pronounced and pleasing. A good garden variety.—*G. F. Middleton, Seattle, Wash.*

Type, Cochet family. Medium-sized, ovoid buds and semi-double orange-pink and rose flowers of open form, fair lasting quality, and slight fragrance, borne singly on medium-long, normal stems. Foliage resistant to disease; moderate, compact growth (14 inches); 4 flowers in the season. It has won no gold medals in my garden.—*A. L. Hubbard, South Bend, Ind.*

Stubby, erect growth. The flower has little or no form, and is so seldom produced that it is easily overlooked. In color it is the ordinary orange-pink which has become so common of late. The foliage is quite distinct, with prominent veins and strongly serrated edges. Very much overrated.—*Editorial.*

Souvenir de Claudius Denoyel. Cl.HT. (C. Chambard, 1920.) A. R. A., 1922.

Resembles Hugh Dickson in flower. Large pointed buds and very large crimson-scarlet blooms which do not blue, of full, perfectly imbricated form, very good lasting quality, and moderately fragrant, borne singly on strong stems of medium length. Foliage soft and wrinkled, mildews some. Very vigorous climbing growth and unusually free-flowering for a Climbing Hybrid Tea. Promising.—*Editorial.*

Souvenir de George Beckwith. HT. (Pernet-Ducher, 1919.) A. R. A., 1920.

Large, pointed buds of dark salmon-pink and large, double, dark salmon-pink flowers in general, but very variable, of very good lasting quality, and slight fragrance; borne singly on strong stems of medium length. Foliage resistant to disease. Growth upright (about 2 feet). All plants gave beautiful blooms but so varied in color that I doubted whether they were true to name. —*Dr. George T. Eliot, Oxford, Maine.*

See page 121, A. R. A., 1926. We have been unable to make it grow at Breeze Hill. The flowers we have seen are large, both globular and pointed, and very double, exquisitely imbricated. The color is a blend of yellow and soft pink, and extraordinarily different at times and in different flowers. It is very handsome, and while not so highly colored as Souvenir de Georges Pernet, it is far ahead of that variety in symmetry and grace of form.—*Editorial.*

Souvenir de Mme. Boullet. HT. (Pernet-Ducher, 1921.) A. R. A., 1922.

Really an astonishingly beautiful rose with gorgeous, long-pointed buds and cupped flowers of rich fawn and apricot-yellow. The flowers are borne horizontally on long, wiry stems, but do not hang their heads. Grows and blooms well. We like it. Has it been overlooked, or underlooked?—*Editorial.*

Sovereign. HT. (B. R. Cant, 1922.) A. R. A., 1923.

Certainly this rich yellow rose deserves a serious trial. It has behaved very much like Mme. Alexandre Dreux for us, but the flowers are much larger, and have brighter red splashes. So far, all plants, even those we have budded ourourselves, have been unusually weak.—*Editorial.*

S. S. Pennock. HT. (Kordes, 1922.) A. R. A., 1922.

Long-pointed buds, shaped like Duchess of Wellington at best, but of an attractive dark pink or light red, opening to very large, double, high-centered blooms of moderate fragrance and unusual lasting quality, especially in the fall; flowers come singly on bold stems. Foliage mildews. Tall and vigorous growth; moderate bloomer. We did not want to like another pink rose, but we could not help it on this!—*Editorial.*

STAR OF PERSIA. Per. (Pemberton, 1919.) A. R. A., 1920.
See Le Reve.

SUNSTAR. HT. (A. Dickson, 1921.) A. R. A., 1921.
Just fine.—*Mrs. J. P. Faulkner, Memphis, Tenn.*
Very delightful color, almost single; yellow splashed with crimson; unique perfume. Buds good shape but open bloom not so good. Does not last when cut. Ten blooms. Too good to be without but it is said that Lord Lambourne will supersede it in time.—*Hugh Templin, Fergus, Ont.*
See page 121, A. R. A., 1926. A disappointment, both this year and last. Flowers very thin and color fleeting—good tints for an hour or so in very early morning, then it fades to washed-out lemon with faint pink tinges at the edges of the petals. It has no form at all and did not grow worth a cent.—*Editorial.*

TEMPLAR. HT. (Montgomery, 1924.) A. R. A., 1924.
A good rose with us.—*C. B. Pond, Grand Junction, Colo.*
Large, ovoid bud and large, full, globular flowers of fair lasting quality, with strong perfume, borne singly on short, strong stems. The blooms are double, dark crimson at first, becoming purplish blue with age, and drop off cleanly when withered. Normal, leathery, large foliage which mildews. Compact grower (1½ to 2 feet); 6 blooms in the season; uninjured in the winter. It does not appear to be any improvement on Hadley.—*A. J. Webster, Toronto, Ont.*
See page 122, A. R. A., 1926.

THE BEACON. HT. (W. Paul, 1922.) A. R. A., 1924.
Another red American Pillar. It is darker and brighter than Ile de France, but the flowers seem flimsier. Worth trying by anyone who likes that sort of thing.—*Editorial.*

THE GENERAL. HT. (Pemberton, 1920.) A. R. A., 1921.
A really promising red of beautiful color, form, and sturdy growth. It has not bloomed much, but one cannot have everything.—*Editorial.*

UNA WALLACE. HT. (McGredy, 1921.) A. R. A., 1921.
Pointed buds and large, double, full, cherry-colored flowers, all one even shade, of very good lasting quality and moderate fragrance, borne singly on strong stems of medium length. Foliage mildews. Vigorous grower; moderate bloomer. When well grown, a very beautiful rose; best in autumn.—*Dr. George T. Eliot, Oxford, Maine.*
Type, Columbia. Medium-sized, long-pointed pink buds and double cupped flowers of old-rose, darker in cool weather but not as striking as catalogues suggest, of good lasting quality and slight fragrance, borne singly on long, strong stems. Foliage resistant to disease. Vigorous, upright grower (2½ feet); 27 flowers in the season; came through the winter very well. To my mind, Frank W. Dunlop and Mrs. Prentiss Nichols are more distinct in color, and if it were necessary to choose between this variety and Lady Alice Stanley, Miss Cynthia Forde, or Mme. Segond Weber, I would hesitate to decide against the old sorts. —*Dr. H. M. Helm, Beloit, Wis.*
See page 122, A. R. A., 1926.

VICTOR WADDILOVE. HT. (McGredy, 1924.) A. R. A., 1924.
Of La France type. Pointed buds and medium-sized, semi-double, pink flowers, with a coppery yellow base, petals beautifully ruffled. Healthy foliage. Moderate growth and bloom. A good bush rose; more beautiful but less vigorous than Mrs. C. W. Edwards.—*A. L Hubbard, South Bend, Ind.*
Best described as an improved Gustav Grünewald as regards the flower.—*H. H. Hazelwood, Epping, New South Wales, Australia.*

VILLE DE PARIS. HT. (Pernet-Ducher, 1925.) A. R. A., 1926.

Very good; better than Souvenir de Claudius Pernet this year.—*C. B. Pond, Grand Junction, Colo.*

The most beautiful yellow rose I have ever seen; absolutely does not fade. It is most decorative in the garden, and lasts a long time. Very strong-growing and has beautiful, healthy foliage.—*Mrs. A. H. Parlow, Charles River, Mass.*

Good color; fine growth. Does not mildew.—*G. H. Goring, Seattle, Wash.*

Long-pointed bud and large, semi-double solid buttercup-yellow flower of good lasting quality, with slight fragrance, borne singly on long, strong stems. Foliage resistant to disease. Growth branching (1½ feet); bore 8 flowers in the season. The June buds balled but the plant was vigorous and did well later.—*A. L. Hubbard, South Bend, Ind.*

Type, La France. Ovoid buds and medium-sized, full, double, open flowers of buttercup-yellow all the time, good lasting quality, with slight fragrance, borne singly and several together on long, normal stems, and hangs on when withered. Abundant normal foliage which mildews. Grows 1½ feet high; bushy; gave 24 blooms in the season.—*W. J. Boone, Caldwell, Idaho.*

As far as form goes, similar to Radiance or some other bulbous type. The color is a cold yellow, about the Souvenir de Claudius Pernet quality, and does not fade. The plant seemed exceptionally vigorous, with long, wiry wood, and disposed to bloom very freely. We have a hunch it may develop into the long-wanted yellow Radiance. It has the flower, it seems to have the growth, and may develop the blooming quality.—*Editorial.*

W. E. WALLACE. HT. (H. Dickson, 1922.) A. R. A., 1923.

Globular buds and double, medium-sized orange-yellow flowers of full form, fair lasting quality, and slight fragrance, borne singly on short, strong stems. Leathery foliage, resistant to disease. Moderate bushy growth; 7 flowers in the season.—*G. G. Whitney, Woods Hole, Mass.*

Golden yellow but soon fades. Blooms good shape. Plant vigorous. Foliage mildews. Do not believe it will be popular. Hope it will be better next season. —*G. F. Middleton, Seattle, Wash.*

See page 122, A. R. A., 1926. We liked it even better this year than last. It has more excellence of form and substance than most of the buff-yellow roses we get nowadays.—*Editorial.*

W. FREELAND KENDRICK. HT. (Thomas, 1920.) A. R. A., 1921.

Type, La France. Medium-sized white buds, and very double, globular flushed pale peach in center, of good lasting quality, and slightly fragrant. borne several together on strong stems of medium length. Glossy, disease-resistant foliage. Bushy growth (about 3 feet); 90 flowers in the season.—*Charles F. May, Yonkers, N. Y.*

Sprawling habit, about 2 feet high. Foliage disappeared early in autumn. Has not bloomed, though planted in 1925. A disappointment.—*Editorial.*

WHITE ENSIGN. HT. (McGredy, 1925.) A. R. A., 1925.

Type, Mrs. Herbert Stevens, but not as good. Pointed buds and small, high-centered flowers of very good lasting quality, borne several together on stems of medium length. Dwarf grower.—*John Barrow, Stratford, Conn.*

The best white Hybrid Tea I have ever seen—almost pure white with cream at the base of the petals. The blooms are held better on the stem than Kaiserin Auguste Viktoria or Edel. Slight odor.—*Hugh Templin, Fergus, Ont.*

A very full white variety, and if only blessed with good growth will rise to a high position.—*H. H. Hazelwood, Epping, New South Wales.*

Did not make much impression, but the plants were weak.—*Editorial.*

A Gentleman Discusses Blondes

By GEOFFREY G. WHITNEY, Milton, Mass.

THE EDITOR has asked that I supplement what I wrote last year about yellow roses. Lest some enthusiast may fall upon me and rend me limb from limb because of some imagined slight to his favorite rose, it must be understood, at the outset, that I am dealing with yellow roses exclusively. If a rose is as wonderful as the catalogues say, and yet of a color unpleasing to my jaundiced eye, out she goes!

The roses which I had this season which were new to me, if not to others, are as follows:

Angéle Pernet. Orange-yellow, shaded rosy apricot. Compact bud, opening with many petals of good substance. Slight odor. Blooms in June 7, July 1, August 7, September 4, October 3; a total of 22.

Elegante. Rich yellow bud, opening pale yellow and holding color well. Long, firm bud; full flower of fair odor. Medium petalage and substance. Blooms in June 3, July 3, August 2, October 2; a total of 10.

Elli Hartmann. Dirty cream! No odor! Buds blunt. Two poor blooms.

Feu Joseph Looymans. Yellow-orange bud, opening deep yellow-orange, veined apricot. Large, perfect buds, opening well to medium-full flowers of good substance. Last well when cut. Slight odor. Very lovely. Blooms in June 1, July 5, August 1, September 6; a total of 13.

Geisha. Orange-apricot-yellow-buff, all blended and fading to rosy buff. Long, well-shaped buds, opening rather too quickly to a flower lacking in petals. Odor fair. Bush strong. Blooms in June 7, July 6, August 5, September 3, October 2; a total of 23.

Mme. Alexandre Dreux. Rather small bud of clear yellow, opening deep yellow with rich orange-yellow center. Full flower, but not large. Odor slight. Substance good and lasts well when cut. Bush poor when planted and slow to take hold. Blooms in June 4, July 2, September 2; a total of 8.

Margaret Horton. Orange-yellow, suffused apricot and fading to pale orange-buff. Unusually long buds, opening well to flowers of medium petalage and substance. Odor good. Bush poor when planted and slow to start. Blooms in July 1, August 4, September 1; a total of 6.

Mary Pickford. Pale yellow buds, opening clear yellow with the center of the flower deep yellow. Slightly deficient in petalage and substance. Very dainty and lovely in half-open state. No odor. Blooms in July 3, September 2, October 1; a total of 6.

Mrs. Redford. Soft apricot, with yellow suffusion. Good petalage and substance. Odor slight. Blooms in July 3, August 2; a total of 5.

Pax Labor. This bush was nearly dead when planted and only produced one bloom of questionable value. Have hopes of it coming another year.

Rev. F. Page-Roberts. Rich golden yellow, with buff shading and apricot suffusion. Very double and of good substance. Stems slightly weak. Odor delicious. Bush slow to take hold and rather dwarf. Blooms in June 2, July 3, August 4, September 1, October 2; a total of 12.

Roselandia. Soft yellow, deepening in center to orange. Fades pale buff outside but center retains its color. Well-formed bud, opening to full flower of good substance. Lasts well when cut. Bush grew very well from a poor start. Blooms in July 7, August 5, September 2, October 2; a total of 16.

W. E. Wallace. Deep yellow-orange-buff. Plump buds opening to very double flowers of poor substance. Odor slight if any. Bush poor when planted and slow to take hold. Blooms in June 2, July 3, August 2, September 3, October 1; a total of 11.

Of the above, only Elli Hartmann completely failed.

Of the others, I accord hearty and almost unqualified approval to Rev. F. Page-Roberts, Roselandia, Angéle Pernet, and Feu Joseph Looymans. It is true that Rev. F. Page-Roberts was rather disappointing in growth, but that did not prevent it from producing a moderate number of exquisite blooms. It may be this variety takes time to become established, and if it should eventually vie with Souvenir de Claudius Pernet in vigor, producing blooms of its present quality, it has my vote.

Roselandia is lovely, and it did unexpectedly well from a very poor bush when planted. Another year I look for something splendid from this rose.

Angéle Pernet, too, looks as if it would be a wonder when it becomes established. The color has a bit too much pink in it to entirely conform to my standards, but the whole effect is so lovely that that can be forgiven.

Feu Joseph Looymans is about the most delicious yellow imaginable, and is a delight from bud to full open flower.

This year I am again rearranging my beds, as well as adding some, and the fact that four of the smaller beds are made up respectively of only Souvenir de Claudius Pernet, Golden Ophelia, Christine, and Eldorado shows my reliance upon and affection for these varieties. Pernet "blunts", as we all know; Eldorado often has weak stems and is a shy bloomer; Christine is frequently shy of petals; and Golden Ophelia also sometimes "blunts," yet they are all really yellow roses.

If I were to give a list of what I consider the best all-round yellow roses, I think, without attempt at putting them in order, it would be as follows: Christine, Golden Ophelia, Edorado, Souvenir de Claudius Pernet, Mrs. Beckwith, Mrs. Calvin Coolidge, Roselandia, Mrs. S. K. Rindge, Rev. F. Page-Roberts, Souvenir de H. A. Verschuren, Feu Joseph Looymans, and Mme. Bardou Job.

These are all true yellows, but there is another whole class in which, while yellow is a component part, other shades of orange, buff, flame, apricot, etc., so intermingle and often predominate that they cannot, in all fairness, be classed as "yellow roses." They are, however, both lovely and important.

I have some fifteen varieties of this class, and to my mind the following are outstanding and worthy of anybody's consideration: Independence Day, Emma Wright, Sunny Jersey and Ariel. All of these and, in fact, all of this class are generally lovely in the bud and half-open state, but lack in petalage, open too quickly, and the color soon fades in bright sunlight.

This year I put in a bed of dark red roses and I must admit that it has been somewhat of a trial to me. They did produce a few sample blooms which gave me quite a thrill, but while I respect these dusky beauties, in common with certain other gentlemen, "I prefer blondes."

To return to my "yellows," I want to say a word for the much-abused Soleil d'Or. With me the foliage has been perfect, and although it has but one real blooming season, like the Hybrid Perpetuals, the flowers it does produce are so lovely and so deliciously fragrant that it is worthy of trial in any garden.

There are so many other fine yellow roses—at least "near-yellows"—that I would like to offer a few as substitutes to my "All-American twelve." These are J. F. Barry, Tipperary, Harry Kirk, W. E. Wallace, Senateur Mascuraud, Souvenir de Gustave Prat, Mrs. T. Hillas, Mme. Alexandre Dreux, Mabel Morse, and, perhaps, some others. They all have their faults but they have, nevertheless, fine qualities.

A rose, new this year and classed as a Hybrid Perpetual, merits particular mention. It is Mme. Albert Barbier, and while having the general characteristics of a Hybrid Perpetual it also has, to a certain extent, the everblooming qualities of the Hybrid Teas. The bush is a sturdy if not a rampant grower, the foliage is strong and healthy, and the flowers, although of slight fragrance, are well formed and of good size and substance. The color is unique among Hybrid Perpetuals, being clear salmon-buff with strong yellow at the base of the petals, and a golden suffusion throughout. The effect is delightful.

Roses in China

By PROF. M. LESLIE HANCOCK, University of Nanking, China

EDITOR'S NOTE.—We in America owe so much to China for all manner of shrubs and plants that news from that old land is always welcome. Professor Hancock is giving us the first real look-in to Chinese gardens that have roses.

THOUGH China is generally known as a flower-loving nation, rose-culture has not attained the prominence here it has in western countries. It is true there are quite a number of native roses, but the chrysanthemum is the Chinese "Queen of Flowers," and takes precedence over all others.

One of the features of floriculture in China that strikes the westerner is the apt naming of flowers by the rule of likening them to some other plant or object. Thus, roses of the class of which Mrs. John Laing is typical are known as Mu-dan Yueh-gi or Tree-Peony roses. With us the above is the Pink Peony, and Ulrich Brunner is the Red Peony rose. Others are Fu Yung or Hibiscus-flowered roses. Some names are given by the flower-gardeners as Da Peh (Big White) for Frau Karl Druschki.

Roses of Chinese origin often have poetic names, though naming after persons, according to the western fashion, is unknown. Yu-go-tain-tsing (After rain—clear shining) is a beautiful, flesh-white, sweet-scented, climbing rose of strong-growing habit, that grows well in Nanking. The few native roses which I have been able to make acquaintance with are mainly climbing varieties. The form of *Rosa odorata* introduced into America a few years* ago is a cultivated climbing rose here bearing the local name of Fun Jwan Lo (phonetic spelling). Crimson Rambler is an old Chinese rose known as Shi Tz-mei (Ten Sisters). The Chinese white and yellow Mu Hsiang roses are the Banksian roses of the West and of the southern United States. Shantung Yellow, which is claimed to be a native

*This is the rose sent as *R. odorata*, form 22449, to the Department of Agriculture by the late Frank N. Meyer as of probable value as an understock. It was described by Peter Bisset on page 40 of the 1919 Annual, and has since proved to be of exceptional value, especially for the Pernetiana roses. Used as an understock for Souvenir de Claudius Pernet, this Odorata has given remarkable results. It seems to be identical with what is known as "Texas Wax," and as sent by the Editor to Australia is there found identical with a stock received more than fifty years ago from Henry Bennett, of England, a famous hybridizer. Mr. Meyer found the Odorata variety in a garden in Pautung Fu, Chihli Province, and it is quite probable that it was also sent to England from China, just as was the Crimson Rambler known to have reached England as the "Engineer" rose.—EDITOR.

Chinese rose, is believed to be identical with the Maréchal Niel of the West.

So it happens that some of the Chinese rose names are probably synonyms for varieties already existing in Europe and America, or vice versa. From a list of rose-names in a Chinese collection of horticultural writings, the following translations are made:

Pale Goose-Beak Yellow
Early Dawn, Wind, and Fading Moon
Three Drunks of Yaoyang
South Sea Heavenly Bamboo
Famous Beauty, Fragrant Air
Tiny Jade Shoulders
Thousand-petaled Yellow
Mountain Happiness
Drunk Yang-fei
Jolly Meet at Wushan
Han Dynasty Spring Twilight
Three Rays of Dawn
Ruby-Red (on) Blue Ground
Drunk Green Lotus
Pink Swastika
Hankow Yellow
Apricot Blossom-time
Begonia Blood-Red
Finest Red Cloth
Green Butterfly
Black Sunflower
Pale Beauty of Gwan
Tungting Autumn Moon
Precious-scented Gold
Great, Rich, and Noble
Peach Lake Spring Morning
Seven Precious Petals
Precious-scented Ivory

The occasional likening of rose varieties to intoxicated persons is just another example of the Chinese genius for apt illustration. The roses referred to are probably flaming pink and red varieties. Some names are very difficult of translation; for example "Chi Lung Han Chu" means a fiery red dragon holding a (red) pearl in its gaping jaws, and one can easily picture an open red rose with a center ball of folded petals.

One must not be misled, however, into thinking that China has a wealth of rose varieties unknown to the West. China has a rose heritage, but it is a limited one when compared with the thousands of rose novelties now known and cultivated in America and Europe. We hope, as part of our future horticultural work in the University of Nanking, to bring the best of these foreign rose varieties into Chinese life; to make them well known and loved, even as they are in our own land. One difficulty, however, is the giving of suitable Chinese synonyms whereby they may be known. So many of our best western roses are named after persons, and these names, when stated in the nearest Chinese sounds, are absolutely meaningless to the Chinese. Such names as Silver Moon, Tausendschön, Snow Queen, Bride, are, however, quite easily translated.

A rather large number of western roses have already been tried in the foreign gardens of Nanking, though we have yet to see how the newer sorts will grow in our climate, which is sometimes rather trying to roses. Our difficulty is getting the varieties established after their arrival here. They first endure an ocean voyage in, perhaps, not the coolest part of the ship, arriving sometimes with long, sprouted shoots, and then have to struggle through a second ordeal of a hot, windy, and sometimes very dry spring. Once established, however, they thrive well, especially where given rational treatment, good food, and spraying for disease-protection. The following list of roses has proved satisfactory so far in our gardens.

Bush Roses. Radiance, Frau Karl Druschki, Gruss an Teplitz, Safrano, White Maman Cochet, William R. Smith, Red-Letter Day, White Killarney, Killarney, Mme. Caroline Testout, Lady Hillingdon, Countess of Gosford, Lady Battersea, Duchess of Wellington, Mrs. A. R. Waddell, La Tosca, Harry Kirk, Wellesley, Mrs. John Laing, Hugh Dickson, Ulrich Brunner, Perle des Jardins, Dorothy Page-Roberts, Lyon Rose, Jonkheer J. L. Mock, Golden Emblem, General-Superior Arnold Janssen, Lady Alice Stanley, General Jacqueminot, Mme. Abel Chatenay, Duchesse de Brabant, George Dickson, Etoile de France, Beauty of Stapleford, Gainsborough, and several unidentified varieties.

Climbing Roses. Silver Moon, American Pillar, Tausendschön, Crimson Rambler, Keystone, Dorothy Perkins, Excelsa, Climbing Cécile Brunner, Climbing Mme. Caroline Testout, Gold of Ophir, Climbing Richmond.

Of species roses, we have brought to Nanking from Shantung a number of *Rosa xanthina* which are growing splendidly. We also have a wild species from Shantung which looks like *R. rugosa* but the plants are growing very weakly and have not flowered yet. This year we have obtained from western Szechuan seed of *R. Hugonis*, which we will sow and hope to have flowering in Nanking in a few years. This is but a beginning of what we hope will be an important rose-test station and propagating center for central China.

Five Years of Rose Progress in Australia

By H. H. HAZLEWOOD, Epping, New South Wales, Australia

EDITOR'S NOTE.—From Australia have come to us many advances in rose culture, as readers of the successive Annuals know. Mr. Hazlewood gives us a summary and expresses hopes in which we share. In the 1924 Annual there was printed a comprehensive view of the breeding work of Mr. Alister Clark.

THOUGH the youngest continent, so far as civilized settlement is concerned, Australia is right up to date in rose culture, and is gradually developing a standard and sentiment of her own, in keeping with the climatic possibilities of this richly favored country.

Following closely on British ideals and customs in the past, the exhibition flower received full attention, and rose shows brought forward blooms of a very high standard, comparing favorably with those of other countries. When the fashion, to some extent, swung in the direction of the decorative bloom, local growers in many cases planted and exhibited the new types and still maintained a high standard of excellence. It is felt, however, that a climate reveling in sunshine and favorable conditions calls for a special type of rose to exploit to the full the wonderful opportunities presented. Coincident with this is the ideal of a vigorous-constitutioned, disease-resistant, extra-free-blooming type which will incorporate most of the exhibition and garden qualities.

Our veteran hybridist, Mr. Alister Clark, has been very active, and in addition to several new varieties is testing out hundreds of pedigreed seedlings. His garden at Bulla is a Mecca to many keen rosarians. Of the varieties disseminated since 1921, the following are the best, and while they mostly convey the artistic decorative idea as regards blooms, they combine vigorous growth and disease-resistance in a high degree.

Kitty Kininmonth. (1922.) A vigorous climber, producing large semi-double blooms of a most striking carmine-rose color. Though distinctive to a degree in this country, this variety should improve considerably in a cooler climate, and reports as to its success overseas are awaited with confidence.

Flying Colours, Golden Vision, and *Harbinger* are all vigorous-climbing, spring-flowering seedlings from *Rosa gigantea,* and will probably not be so successful in the very coldest sections. The first named is valuable for its early and profuse blooming qualities. The deep cerise blooms are 5 inches across,

quite single, but are borne in such numbers as to cause the bush to be a distinctive feature in the landscape. They are also excellent for decorative effect indoors. Golden Vision is a seedling from Maréchal Niel and *R. gigantea*, and possesses distinct value by reason of its early blooming. It is not as large as Maréchal Niel, but free from the cankering defects of this parent, and carries some of the old favorite's perfume. Harbinger is a large single rose of dainty pink, with fine possibilities for indoor decoration.

These Gigantea seedlings are all of the first generation and are spring-blooming only. When, however, they are crossed with hybrid varieties, the second generation shows that the climbing habit disappears while the flowering factor swings from the extreme of a spring crop to a continuous blooming. This is sometimes disconcerting, as there is no dormant period for pruning, and propagation is difficult, for the eyes shoot before the blooms are fully developed. So far the following two of these dwarf everblooming varieties have been disseminated.

Lorraine Lee, when grown in rich soil, almost rivals Mme. Edouard Herriot for color, and produces long, pointed buds opening to semi-double flowers. The constitution is splendid, and the foliage highly disease-resistant, making the variety extremely valuable for hybridizing.

Squatter's Dream is more of a button-hole rose, rich yellow in color and highly tea-fragrant. It makes a good standard, but, like many yellow varieties, loses its color quickly in strong sunlight.

Though not the result of careful hybridizing, a climbing sport of Laurent Carle (Rosen, 1923) claims attention. Apart from its qualities as a very sweetly scented red climber, it is interesting to note that another climbing sport from the same variety was disseminated from France (Mermet, 1924) a year later. There have been several instances of climbing sports from the same variety originating in widely separated countries, and one can only guess at the cause. Science cannot help us so far by advancing a reason why the bushy habit of many years should be suddenly thrown aside for a different style of growth.

The last five years mark an interesting period in Australian rose-growing, by reason of the fact that for the first time Australian-raised roses were tested overseas, and won distinction in competition. At the Royal Horticultural Society's gardens at Wisley, England, Salmon Spray* (Grant, 1923) and Mrs. R. M. Finch (Finch, 1923) scored certificates, and the first named is finding many appreciative admirers in England. Its

*We had it at Breeze Hill, too; see "Proof of the Pudding," page 143.—EDITOR.

color, a rich begonia-pink, would intensify and be more lasting in a cool climate.

Varieties so far not in commerce are represented by Countess of Stradbroke (Clark), a very rich red seedling from Walter C. Clark, with wonderful fragrance and strong climbing growth; an unnamed yellow seedling from Elegante (Grant) with great promise as a show and garden rose, and carrying good growth, distinctive foliage, and rich tea fragrance; and a pink sport from Hadley, reported in two separate quarters, is being watched with considerable interest.

In cultural methods there is a distinct sign of progress. Growers everywhere are studying climate in its effect on rose varieties, and much disappointment and failure is being obviated. The rules laid down by your Capt. Thomas are being adapted to local conditions, and are found to correspond in a surprising degree to Australia's varied climates. In a country as large as the United States, with climates varying from almost tropical to those in which the Old World fruits find a congenial home, it is evident that general rules cannot be laid down.

Though not strictly limited to the last five years, there is an emphatic protest in most quarters against the extra-heavy pruning practised in colder countries. Where roses may be had in bloom almost all the year round, experience has proved that lighter pruning, coupled with scientific feeding, is a much better plan to follow, and the further north toward tropical climates one proceeds, the less severely we should prune.

Not only are varieties tested out for climatic differences but stocks, manures, and pruning methods are being thoughtfully investigated by amateurs and professionals alike. There is a pronounced idea gaining ground that all plant-life, and roses in particular, should receive as much consideration as is given to animals. The two forms of life have much, very much, in common, and if animals suffer from lack of vitamines or other essentials, it is equally possible that plant life is similarly affected by the absence of some important food. Some are required in minute doses only, but even as man does not despise salt or baking-powder, so the minute quantities of magnesia, sulphur, iron, or manganese necessary to plant-life should receive equal recognition. The use of potash in one form and

another is being widely tested, with splendid results, for the control of leaf diseases. Other investigations are under way.

For years it has been argued that a general stock for all roses is practically impossible, and in a number of quarters various rose species are being propagated and tested with the one idea of finding a better stock for some varieties. The outstanding success, particularly for Pernetianas, is *Rosa multiflora.* Curiously enough, where America is advocating *R. odorata* for Souvenir de Claudius Pernet, it has been found that this variety is giving best results here on Multiflora. This is only another instance of climate causing an apparent contradiction. When the affinity of each variety or class of rose is established, then progress will be much more rapid.

For some years a number of enthusiasts have been grappling with the "bluing" problem in red and pink roses. While it is premature yet to announce success, the results to date are of sufficient importance to inspire hope of an early solution of the difficulty. Experiments are being conducted this season to determine whether the cure is to come through the hybridist or by more intelligent gardening practices.

Progress in one direction cannot be reported, unfortunately. The Australian rosarian has his full share of plant pests, but more than double his allotment of that minute foe known as thrips (*Thrips tabaci*). The spring just over has been disastrous in at least two states, for not only roses, but fruit crops as well, have felt the full force of this scourge. In thousands they entered each flower, as it prepared to open, and by depriving the petals of their normal supply of sap, caused the edges to brown and thus disfigured and ruined the rose crop over a very wide area. These things cannot be sprayed by usual methods without soiling the blooms. The flying insects blow in from neighboring gardens and fields in countless millions, and even if a garden were cleaned one day it would be reinfested the next. Fortunately, these visitations are confined mostly to the spring months of October and November, and are generally much less severe. This season however, seems to be a peak year. United efforts for control have, so far, not produced any remedy, but we live in hope of the discovery of effective control measures.

Roses at a Naval Base

By G. PRIDEAUX, Lieutenant, Royal Australian Navy, Flinders Naval Depot, Westernport, Victoria, Australia

EDITOR'S NOTE.—Despite its place on the other side of the globe, Australia seems near to America in rose relations and sympathies. Lieutenant Prideaux tells us of that rose spirit in the Australian Navy of which we had memorable instance in the work and rose-love of the late Admiral Aaron Ward of our own Navy.

I LOOK upon the invitation to write about the rose-garden at Flinders Naval Depot as a compliment alike to myself and to the Royal Australian Navy, in which I have had the honor to serve during the whole of my lifetime. There is an added pleasure in accepting this invitation in that I have had active association with the United States Navy in two campaigns —firstly in the Boxer rebellion in China in 1900, and latterly in the company of the Sixth Battle Squadron under Admiral Rodman, U. S. N., in the Grand Fleet. The American squadron lay alongside our squadron in the Firth of Forth, I being then in H. M. A. S. *Australia*.

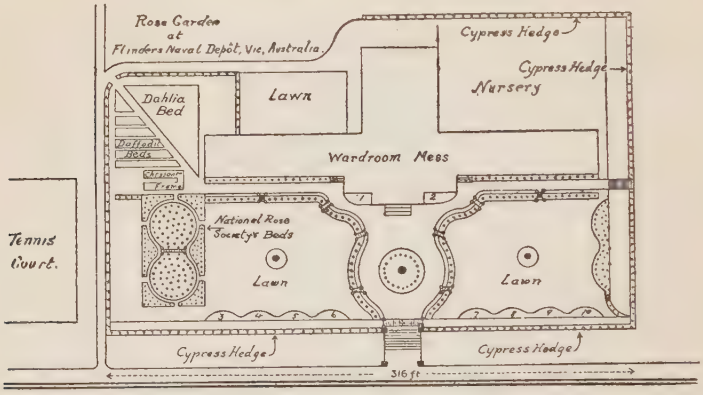
On my return to Australia, at the termination of hostilities, I was appointed to the gunnery school at Flinders Naval Depot for ordnance duties. Flinders Naval Depot is a very extensive establishment about fifty miles from Melbourne.

Of all people, I suppose, a sailor, by the nature of his calling, might be expected to know least about horticulture, but almost to a man, sailors love flowers, and when appointed to shore duty one of the first things they undertake is to make a garden.

When the opportunity occurred at Flinders, I was selected for the garden job, and given a free hand.

My first decision was to make it essentially a rose garden. I laid out the rose- and flower-beds and submitted the plans for the approval of the Mess, receiving instructions to go "full speed ahead." With much trepidation I approached Mr. James Allan, president of the National Rose Society, with a modest request for some rose-cuttings. At the next monthly meeting he put my request to the members, with the result that the National Rose Society gave us a magnificent start with a gift of over one hundred strong, healthy rose plants donated by

various members. These were planted in two large beds divided by a pergola on which climbing roses help to relieve the surrounding dwarf varieties. Round these two large beds were six other beds to conform to the shape of the two main center beds, the whole containing 180 rose plants. These smaller beds were donated by officers on leaving the Mess at the expiration of their appointments, and are named after the respective donors.



I am rather proud of the pergolas for the climbers. I used 6-inch earthenware drain-pipes, marked out the positions for the uprights, then with a post-hole digger, bored holes to take the drain-pipes, care being taken to bore vertically. The holes being the exact size of the drain-pipes they required no ramming. I then used a number of 3-inch iron pipes, 8 feet 6 inches long, and after dropping these into the drain-pipes, put fine concrete into the space around the iron pipe, first getting it upright with a spirit-level, and all four level across the top. When the cement had set I secured two strong battens to each pair of pipes by means of bolts, cemented into the tops of the pipes. Cross battens were then nailed on, and side battens were fitted, with which to secure the climbing roses. These pergolas will last as long as Flinders Naval Depot itself!

A very warm supporter of the Navy, Mr. F. Tolley, of Adelaide, donated sufficient standard roses to line the paths; also giving to the Mess a magnificent silver rose-bowl on which

he paid me the compliment of having engraved "The Prideaux Rose Bowl."

Two wings have been added to our Mess, and we have increased the number of standards to 120, dwarfs 205, climbers 25, making a total of 350 roses altogether.

A great many factors contributed toward making this rose garden a success. The soil is of a heavy, retentive nature. It had to be carted fully a mile as the Mess was built on ground that had been cut away, leaving only the bare clay. The climate is very mild, frosts being almost unknown. The air coming direct from the sea is humid. Being so far removed from any settlement, we are free from the insect pests to which city gardens are most subject. There are no dust particles to settle on the foliage. There is evidently a fair percentage of iron in the soil, for we get wonderful color in our blooms. Over a thousand feet of agricultural drain-pipes were laid to insure that the soil would be kept sweet. The one great disadvantage from which we suffer is the wind. A hedge of *Lambertiana horizontalis* has been planted all round the grounds, with sheets of galvanized iron let into the earth to prevent the roots from robbing the flower- and rose-beds of nourishment and moisture.

Lately we had the President of the National Rose Society down to give us a lecture on the cultivation of the rose. When inspecting the garden next morning, he said there were no finer standards in Melbourne than we had in our garden, which statement, coming from so great an authority as Mr. Allan, was very pleasing to us seafaring men here.

In the circular bed in front of the Mess entrance we have a palm (*Phœnix canariensis*) given by the Director of the Botanical Gardens, Sydney, on the occasion of the opening of the Mess. Around the periphery of this bed are eighteen standard roses. It has been found necessary to protect these from the roots of the palm with a ring of galvanized iron let vertically into the ground. Around the edge of the bed is a grass strip about 2 feet wide. There is a strip of grass in front of all the standards along the line of paths; this gives a very pleasing effect. In the center of the lawns are two weeping ash trees budded on stocks 10 feet high. At the base are beds massed with ranunculus and stocks. In the flower-beds, numbered from

1 to 10, are planted seasonable subjects to relieve the wide expanse of lawn. These, with chrysanthemums, dahlias, daffodils, and gladiolus, give flowers for table decoration.

In the Mess smoke-room is a board well covered with certificates won at the various shows, principally from the National Rose and Royal Horticultural Societies. My messmates duly show this "honor board" to visitors with much pride.

This season I have added some sixty new roses, including a good number of those recently brought to Australia, as follows: Royal Red, White Ensign, Rose Marie, John Henry, Souvenir de Claudius Pernet, Souvenir de Georges Pernet, Captain Ronald Clerk, Lieutenant Chauré, Red Radiance, John Davison, John Russell, Maud Cuming, Francis Scott Key, Mrs. Calvin Coolidge, Amelie de Bethune, Fred J. Harrison, Imperial Potentate, Mrs. Wm. C. Egan, Emma Wright; also Mr. A. Clark's Lorraine Lee, Daydream, and Climbing Milkmaid.

The old favorite, La France, does well with me, whereas in Melbourne it is very difficult to get a good bloom. Strange to say, Mme. Abel Chatenay has not done well, but in Melbourne it grows to perfection and has twice headed the poll in the plebiscite taken in the *Argus* for the best twelve roses. Roses that do exceedingly well here are Gladys Holland, Nellie Parker, Margaret Dickson Hamill, Raymond, Frau Karl Druschki, George Dickson, Souvenir de Marie Zayas, Admiral Ward, Columbia, Mrs. R. D. McClure, and many others.

This article would be incomplete unless I mentioned a bed of thirteen Sunny South, donated by the raiser, Mr. Alister Clark, Australia's foremost hybridizer. They are wonderful, and always in bloom. The color is a deep pink, the foliage beautifully green and mildew-proof. Mr. Clark has developed a type which I, along with other rosarians, hope will be known as "Clarkiana."*

If I might be allowed to say so, one cannot get the best results from a rose-garden, or from any other garden, for that matter, without doing things oneself. It goes without saying that a grower will attend to all the details in the garden more so than the gardener, good though he may be. It is the small details that count for success.

*This suggestion was made in the discussion of Mr. Clark's roses which appeared in the 1924 Rose Annual.—Editor.

PLATE XI (I). Brown canker (A-G) and brand canker (H and I)

A-E, one-year La Tosca canes collected in May. F, leaflet of Oakmont; G, leaf and stipule of Gloire Lyonnaise. H and I, stems of a rambler rose. Reproduced from natural color photograph on Agfa plate made by Marcel L. F. Foubert.

Brown Canker of the Rose

By ANNA E. JENKINS, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.

Figures in parentheses refer to Literature Cited on page 181

THE disease known as brown canker, caused by *Diaporthe umbrina*, has probably been a factor in the culture of garden roses in this country for many years. A preliminary account of brown canker was published by the writer in 1918 (2), at which time the apparent importance of the disease was apprehended. Additional information, resulting from continued investigation of the problem, has been reported from time to time in briefer articles and notes, or recorded by means of the pathological specimens which have been collected.

More recently, in the eastern and southern United States, pathologists in state experiment stations or agricultural colleges and rosarians have become concerned as to the probable importance of this rose disease. In the gardens of the East and South its destructiveness has long been apparent. Numerous inquiries have indicated the need for the summary of available knowledge on the subject included in the present article.

Most of the field observations in this study have been made on rose-plantings maintained by the Office of Horticulture, Bureau of Plant Industry, at the Arlington Rose Test-Garden, opposite Washington, D. C., and at the Bell Experiment Station, Bell, Md. The Arlington Garden is under the direct supervision of F. L. Mulford, and the Van Fleet collection at Bell under that of B. Y. Morrison. Most of the other plantings on which observations have been made represent rose-propagation experiments conducted by G. E. Yerkes. Through the courtesy of these horticulturists, pathological specimens have been taken from time to time for laboratory study and for herbarium or photographic record. The laboratory studies have been conducted in the Office of Mycology and Disease Survey, Bureau of Plant Industry, U. S. Department of Agriculture.

Most of the illustrations* accompanying the article are from specimens selected in the Arlington Rose Test-Garden. A number of them are from photographs made by J. Marion Shull

*The references to plate numbers in this article refer to the Roman numerals in parentheses in the legends.

and J. F. Brewer[1], although the greater part were made by the Office of Illustrations, U. S. Department of Agriculture.

For the critical reading of the manuscript the writer is indebted to the horticulturists named above and to Dr. L. M. Massey, the pathologists E. A. Siegler and Dr. Errett Wallace.

History of the Disease. The severe attack of brown canker on rose-canes in the Arlington Garden was first brought to the attention of the writer by the Federal Horticultural Board in the spring of 1917. At that time no record was found of a disease of roses that could be cited as definitely referring to brown canker. A note published in 1902 by Prof. J. B. S. Norton, (10) refers to a rose disease, occurring at College Park and in two other localities in Maryland, which "kills the bark in large areas on the stem and often girdles the whole stem." The specimens upon which this report was based evidently were not preserved, but Prof. Norton has recently suggested to the writer that the disease which he reported may have been identical with the brown canker. This possibility is further substantiated by two early specimens collected a little later at Washington, D. C., and deposited in what was then the Herbarium of Vegetable Physiology and Pathology, U. S. Department of Agriculture, now the Herbarium of the Office of Mycology and Disease Survey, Bureau of Plant Industry. These specimens were gathered at the Congressional Cemetery in 1903 and 1904.

Another early specimen was found in the Mycological Herbarium of the Bureau of Plant Industry. This one was collected in 1904 from severely diseased roses growing on the Experiment Station grounds at Morgantown, W. Va., by Dr. John L. Sheldon, then pathologist at the Station. From this specimen and through recent correspondence with Dr. Sheldon it has been definitely established that of two rose diseases which he reported in 1904 (13) the one illustrated under the name of "cane blight" refers to the brown canker. In the half-tone illustration, although they are somewhat indefinite, certain symptoms typical of the brown canker disease may be distinguished. In a note published two years later, Sheldon

[1] Plate V (reproduced from the writer's first paper), A of Plate II, and C of Plate III were made by J. Marion Shull, and A and B of Plate IX by J. F. Brewer. Unless otherwise indicated, the photographs are of natural size.

alluded to the occurrence of the disease in the rose-garden at the Experiment Station at Morgantown (14). At the fourth annual meeting of the American Phytopathological Society, in 1912, he presented a report on "Some Rose Anthracnoses," an abstract of which was later published (15), wherein one disease was described as "rather serious in certain localities." From a recent personal discussion with Dr. Sheldon at Morgantown (September, 1926) it appears that this had reference also to brown canker.

When the disease was discovered in the Arlington Rose Test-Gardens, in April, 1917, the only growth present was one-year wood or older. This had been greatly injured the previous July by an unusually severe hail-storm. In many cases the wounds were nearly contiguous for a considerable distance on the canes. As noted and illustrated in the writer's preliminary paper, cankers were present where no external injury could be detected (Plate V, B) but were preponderantly formed about the wounds produced by the hail-stones. It was later found that the leaves, flowers, and fruits were also susceptible to attack (3). The disease was reported under the name of brown canker as distinguished from common canker (Plate V, A) attributed by O'Gara (11) and others to *Coniothyrium fuckelii* Sacc.

Though reported in 1904 under the name of cane-blight, the disease is now commonly known as brown canker, but other names have occasionally been employed in referring to it, as *canker*, *yellow canker*, *anthracnose* and *blossom blight*. According to F. L. Mulford, the late Dr. Walter Van Fleet maintained that the term "die-back" as commonly applied by old-time rose-growers to an unhealthy condition of rose plants in spring is also referable to this disease.

Varietal Susceptibility. During the severe attack of the brown canker disease at the Arlington Rose Test-Garden in 1917, it was observed that some horticultural varieties and a few of the species were severely affected, while the Briars, Rugosas, Mosses, most of the species, and some of the ramblers were free from the disease. Further observations have shown that of the horticultural varieties, the Teas, Hybrid Teas and Hybrid Perpetuals in the order named, are particularly susceptible. The disease has now been observed on varieties of most of

the other classes. Furthermore, it occurs on a number of named species, both native and introduced, while the ramblers are possibly more resistant than was at first thought.

Some of the varieties on which the disease has been observed at Arlington Experiment Farm and at the Bell Experiment Station, as well as in the rose-garden at Bronx Park, New York City, and in a few other places, are tabulated at the close of this article.* The nomenclature is in accordance with Standardized Plant Names (1). A few of the varieties, however, are not listed in that publication.

Geographical Range. The range of the disease has now been found to include most of the Atlantic Coast States from Massachusetts to Florida, as well as Kentucky, Pennsylvania, Alabama, Mississippi, and Michigan. The distribution, as cited here, is based mainly upon specimens which have been received directly from correspondents (3), alarmed over the unhealthy condition of their garden roses, or indirectly through pathologists in state experiment stations and agricultural colleges. It is not known whether brown canker occurs west of the Mississippi River or in other countries, although a number of inquiries have been made to determine this point. In some instances it has been confused with other fungous troubles; in other cases, a diseased condition has not been recognized. A survey of nurseries and rose collections and a search for the disease on native species growing naturally might show that it is widely distributed. In New York State, for example, the disease has been found in three localities other than those from which specimens have been received from correspondents, namely in the rose-gardens of the New York Botanical Garden, Bronx Park (4); in those of the Cornell University Floriculture Gardens, at Ithaca; and nearby, at Trumansburg (5), where it occurred on a dense roadside growth of the Prairie rose, *Rosa setigera.*

During the past season, specimens of the species just referred to, showing typical symptoms of brown canker, were collected by the writer in Michigan and at Morgantown, W. Va. (5), as well as in the state of New York. The specimen from Morgantown was collected from a planting on which Dr. Sheldon had

*Because of lack of space this list is omitted. It contained a great many varieties and indicated that all roses are susceptible.—Editor.

formerly observed the disease. In a letter received from him a few years ago, he stated that the disease is usually present on this rose. Moreover, in conversation with Dr. Sheldon, he related having found severely diseased plants in an extremely isolated location in the state a number of years ago and was of the opinion that the disease may, perhaps, have spread from this particular native species to roses in cultivation. This possibility, which had also occurred to the writer, would seem to be further substantiated by the observations summarized above. The specimens from Michigan form the basis for the first report of brown canker from that state to the Plant Disease Survey.

If not already generally distributed, it is probable that the range of brown canker is being generally extended. For example, while passing a florist's shop in Washington, D. C., in June, 1923, the writer's attention was attracted by typical symptoms of brown canker on plants of Lady Ashtown displayed for sale. Inquiry proved that the plants came from one of the largest distributors of roses. Again, in February, two years later, upon entering a flower shop in St. Petersburg, Fla., unhealthy petals from blooms of Marie Van Houtte were noticed. The blossoms had been cut from plants grown in the open in that vicinity. Specimens were obtained and the trouble later diagnosed as brown canker (5). In each case the florist was unaware that the plants or flowers were diseased. A third observation refers to the disease on the Prairie rose observed recently at Trumansburg, N. Y., for it was in stopping to gather blooms from the dense roadside growth that typical stem cankers were noticed. Only a specimen for record was taken, however, on account of the apparent ease with which the fungus causing the disease could be carried in this way to other localities.

Importance. That brown canker is probably one of the most important fungous diseases affecting roses grown in the open has been suggested by the writer on other occasions. Certain pathologists have recently stated in correspondence that where present with other rose diseases, brown canker rates above them in destructiveness. In one locality where the disease is known to have been present for a few years an increase in severity and prevalence has been noted. It seems likely, how-

ever, that under certain conditions at least, another disease *brand canker* (7), now known in Canada and in the United States, might rival brown canker in destructiveness. The discovery of a serious outbreak of this European disease in the previously mentioned Cornell rose-garden in June of the past year has caused some alarm (6, 18). Although brand canker has some symptoms[1] in common with brown canker diseases, the two may usually be distinguished without difficulty. Illustrations of brand canker for comparison with brown canker, as well as with common canker (Plate V, A), are shown in H and I of Plate I.

Nature of the Losses. In the vicinity of Washington, during the early spring months, the fungus becomes particularly active on the canes, and on the more susceptible varieties much damage

[1] The illustrations of brand canker were made from specimens collected in the Cornell University Floriculture Gardens (June 9, 1926) by Miss Cynthia Westcott, Heckscher Research Assistant, Cornell University, and Miss Alma Waterman, Junior Pathologist, Office of Forest Pathology, U. S. Department of Agriculture. The following description of the symptoms of brand canker was prepared by Miss Westcott:

Symptoms of Brand Canker. The cankers vary greatly in size and somewhat in appearance, according to age. The young canker shows only as a small reddish discoloration of the bark. This increases in size, becomes darker, and the margin becomes somewhat more definite. As the cells die, the center of the spot turns brown, but there is always a reddish brown or an almost purple margin which shows up very strikingly against the green of the cane and makes the disease easy to recognize, even from a distance. The pycnidia appear as minute elevations before the center of the spot becomes brown, and as they increase in size small longitudinal slits appear in the bark, exposing the black mass of spores underneath. These small slits are particularly characteristic and in the field they serve to distinguish this canker from common canker caused by *Coniothyrium fuckelii*. The spots may be anywhere from one to several centimeters in length and may extend half or three-quarters around the stem or may completely girdle it. It is the last case which causes the whole cane to die, even though the canker may be located a long way from the tip. The spots are very often confluent and the dark bands, alternating with the brown necrotic areas, extend for several inches on an otherwise green cane. Often the canker seems somewhat sunken, except for the pycnidial elevations. Very little callous formation was observed. Even the spots on the two-year canes corresponded in general to the description given above for the one-year canes, although there may have been somewhat more splitting of the bark.

During the past summer the brand canker fungus has been isolated from specimens from the Cornell University Floriculture Gardens by Miss Westcott and by the writer, who has also cultured the common canker fungus on other occasions. These two fungi grow very differently in artificial culture media. The imperfect stages of the two possess certain microscopic characters in common, relegating them to the form genus *Coniothyrium*. The microscopic characters of the brand canker fungus are particularly distinctive and not to be confused with those of the common canker fungus, at least as known by the writer. An examination of the literature on brand canker (termed "Brandfleckenkrankheit" by Laubert) (12) shows that there has been uncertainty and confusion in this respect, with the further consequence that in certain reference works information probably referable to brand canker is included in the treatment of the common canker disease.

Control. The general control measures suggested by Laubert are "a careful cutting away of diseased cankers and spraying with Bordeaux mixture" (12). In connection with the control of the disease in the Floriculture Gardens at Ithaca in June, Miss Westcott (14) has made the following statement: "The plants were so badly diseased that there would have been slight if any show of blossoms this year. The only feasible control measure seemed to be to cut out and burn all the old canes, leaving only the new growth, spraying the latter thoroughly with Bordeaux mixture. This has been done." In May, 1926, Ludwig (18) stated that the brand canker fungus attacks roses weakened by other factors, and as a control for the disease he cites the cutting and burning of the diseased canes.

may be done in a comparatively short time. The canes may be greatly disfigured or may die back (Plate I, A-E). Weaker varieties, particularly, may be killed from one season's attack, or, where there is no further infection on the succeeding new growth, plants thus affected may entirely recover. Even where there is continued infection, plants may live on for several years, sending up new shoots from below each season, some or all becoming infected in turn and dying back the following spring. Plants severely attacked in this way become more and more weakened and misshapen and eventually succumb (Plate II). In the Tea and Hybrid Tea section of the Arlington Garden there were many missing plants each year until certain control measures were instituted, based upon experiments made in the Garden. The loss of the plants and the consequent disfiguration was remarked upon by members of the American Rose Society on the occasion of their annual pilgrimage to the garden on June 1, 1923. The following quotation is taken from an account of this pilgrimage prepared for the *Florists' Exchange* (8) by C. P. Linz: "Rose canker, or die-back, whichever one may wish to call it, is leaving its mark upon the plants in the Test-Garden at Arlington Farm. There are many vacant places in the Garden caused by attacks of this affliction."

With the exception of *Rosa setigera*, the Prairie rose, which according to Sheldon may be so severely attacked that defoliation results, only an occasional spotting has been observed on rose leaves. Leaf-spot on *R. setigera* was observed in severe form during the past October on a nursery row of budded plants at the Arlington Experiment Farm.

When the flowers are attacked their beauty is marred, and, according to several reports which have been received, as well as observations made by the writer, the buds evidently sometimes fail to open. In the vicinity of Washington, D. C., blossoms may be attacked at any time during the season, even as late as November 1. In the summer of 1924 there was unusually heavy precipitation, and blossom infection was abundant on many varieties, including the Dr. W. Van Fleet rose, although in no other season has the disease been observed on this variety. During this same season, blossom infection occurred in severe form in the Bronx Park rose-garden (4) where the blossoms were

rendered so unattractive that throughout the summer the gardeners removed them as they appeared. The trouble was attributed to the unusual weather conditions of the season.

On one occasion (3) the disease was observed on cuttings and again on scions in the Arlington Experiment Farm greenhouses (Plate VIII). About 98 per cent of some 5,000 cuttings and about 30 per cent of 1,500 scions, representing Tea, Hybrid Tea, and Hybrid Perpetual varieties, were lost. The brown canker fungus was present and fruiting on the greater part of these cuttings and scions, although a few other fungi apparently caused some of the trouble. The wood for the cuttings was selected from the Arlington Garden the previous summer. Some of it evidently showed initial infection lesions at the time as a few were noticed on the cuttings. It seems probable that the fungus may have entered the soil from this source, the cuttings, as well as the scions which were from another propagating-bed, having become infected from mycelium in the soil. It was thought that the temperature of the soil was unfavorable for the rooting of the cuttings, but whether, under more favorable conditions, a higher percentage of the cuttings might have lived is open to debate.

There has been one report of a serious loss of plants held in storage for the winter and one of its occurrence on roses grown under glass. In the former case the storage conditions were apparently favorable for the development of the canker from initial infection lesions, which very likely were visible on the canes when the plants were removed from the garden. An instance of cankers forming in this manner on infected bud-wood heeled in for the winter has been noted.

Symptoms. The symptoms of the disease are well illustrated on Plates I–IX. On different varieties the symptoms show little variation, although on canes of some of the smooth-stemmed roses, such as Paul Neyron, Gloire Lyonnaise, Oakmont, Radiance, and La Tosca they are particularly conspicuous. For this reason these varieties have been largely used in studying brown canker disease.

On the Stems. The injury to the canes is probably most often traceable to cankers which develop during the late winter and spring. These usually arise from the initial stem infections (Plate I, A) although occasionally they develop

in other ways, as, at the base of a thorn (Plate IX, B), lateral blossom spur (Plate VI, B), or about wounds, as well exemplified by the cankers following hail injury in 1917. There may also be a more or less gradual or discontinuous dying back of the canes from infected blossoms, either during the current season or during the following winter and spring (Plate VI, A); or, the canes may die back from cut ends left in pruning. Where a canker does not completely surround a cane the first year, the latter may be girdled the following spring by extensions from one or more points along the margin of the canker.

When a stem is girdled, the portion above may die almost immediately, the bark becoming soft to the touch. Later it may become wrinkled and shrunken and brown in color. The cankers or more extensive regions invaded by the fungus are usually sharply delimited by their conspicuous coloring. As described below, this may be variegated or consist of one color only (Plate I, A–E). Cinnamon-buff, as illustrated by Ridgway (12) may be said to be the predominating color symptom of the disease. With the possible exception of the purple border or other purplish coloring, it is usually the most conspicuous color presented in newly formed cankerous regions.

The initial infection lesions, which are at first purple and then white, are of almost fundamental importance from any viewpoint from which the disease or its control may be considered. They are familiar to many as apparent blemishes, more or less common to rose-canes, but not as indications of a disease. That they are manifestations of the brown canker disease, however, is easily demonstrated in the laboratory, for from plantings of even small portions in artificial culture media, the fungus develops in characteristic manner (Plate IX, D). Moreover, although they may be somewhat inconspicuous, in the absence of other symptoms they have thus far proved diagnostic for the disease on the stems. A somewhat more detailed account of these lesions and the cankers arising from them has, therefore, been prepared.

Initial Infection Lesions. Initial infection, as previously stated, is first evidenced by the small reddish to bluish purple spots appearing on the current year's canes (Plate III, A). These are circular, usually not more than one-eighth of an inch in diameter, and nearly level with the surface, although they may be slightly raised and somewhat broken at the margin (Plate III, A). Some of the spots may retain their purple color but usually they soon develop into whitish necrotic lesions which often scarcely penetrate the surface of the stem. The lesions increase little, if at all, in size. On certain varieties they may become noticeably raised and cracked at the margin, the wound in some cases apparently healing out. Sometimes the spots may be so closely grouped that they form solid white patches or more or less continuous areas on the stems (Plates III, IV). Fruit-bodies of the fungus, when present, appear as black dots, usually occurring singly in the center of the individual lesions (Plate IV, A) or scattered over the surface of the coalescent ones. As the canes age, longitudinal cracks may appear through the lesions, and they may become somewhat duller or grayish in color (Plates III, IV). Lesions may also occur on thorns as shown in Plate III, A.

Initial infection lesions may occur at any place on the stem without definite arrangement or grouping, or they may form a more or less distinct series, the spots appearing as an arc, an angle, or a more or less solid patch above one or above several buds in succession, then becoming more or less scattered for some distance above (Plates II, III). Such a series of lesions, extending most of the length of a young 8-inch stem observed while the spots were still purple, could be easily detected two months later when the cane was 3 feet tall, appearing then as white lesions on the lower 8 inches or so of the stem. In another

instance, on a stem which became infected after it was half-grown, there was a similar arrangement of the lesions beginning at about 18 inches from the base and extending upward about 6 inches. On rapidly growing canes of Oakmont and Gloire Lyonnaise, such an arrangement of the spotting has been observed to extend for a distance of about 2 feet. It often happens that this more or less definitely arranged series of spotting is located near the base of the stem. A series thus located is shown in Plate III, B.

The purple spotting has been observed by the first of June on the earliest shoots of the season (Plate III, A) and on canes developing throughout the remainder of the season. By midwinter the lesions have become blanched and more conspicuous (Plate III, B). At this time, too, there may be visible additional lesions which were not visible in autumn, and spots which were still purple at that time may now have turned white. On the other hand, the transformation from purple to white may take place in a comparatively few days. On certain varieties, as La Tosca, some of the lesions may be nearly cinnamon-buff instead of whitish or pure white.

The Cankers. During the winter and spring, conspicuous bright-colored cankers develop about the white spots on the one-year canes, often girdling them and sometimes forming cankers several inches in length (Plate I, B, C). After girdling the stem, the canker may advance more or less gradually downward. Where cankers have not formed earlier, they may develop about the lesions as late as the third year (Plate III, D).

In the development of a canker, a definite purple border first appears about a white lesion, but instead of turning white, as in the case of the initial infection lesions, it soon forms a more or less complete cinnamon-buff or tan-colored zone with a purple advancing margin (Plate I, A). Instead of entirely surrounding the white lesion, the advance may extend in the form of a lobe (Plate I, D, E). The canker may increase rapidly by additional purple marginal extensions until the stem is girdled (Plates I, A-E and V, B), each purple margin changing in color to cinnamon-buff,[1] tan, or brown. The cankers may be of one of these colors only, or they may be variegated, due largely to the differences in shading produced by the successive advances of the purple margin. Purplish markings remaining where an advancing margin has not entirely changed color, and the brown or black dots which are the pycnidial fruit-bodies of the fungus, add to the diversity of color. The pimple-like elevations, as shown in Plate V, B, indicate the presence of fruit-bodies, pycnidial or perithecial, beneath the surface. (See also A and C of Plate IX). The fruiting bodies are sometimes arranged in one or more circles, or they may appear to occupy the position of the lenticels, as shown in B of Plate V. The coloring of the cankers, when contrasted with that of the healthy canes, presents a singularly striking effect (Plate I, A-C).

Occasionally, the part of the stem which has been girdled becomes darkened and watersoaked in appearance, as illustrated in D of Plate IV, instead of forming definite cankers. This stem (Plate IV, C) was photographed on the day it was brought in from the garden, then kept for a week in the laboratory with the cut end in water, when the second photograph was made. On another stem receiving the same treatment, however, typical cankers occupying more than half of the circumference of the stem had developed in the usual way from initial infection lesions; on these newly formed cankers, a number of fruiting bodies had developed. A third cane, with a few white spots near its base from

[1] Other Ridgway color readings made from the cankers are—*argus brown, cinnamon-brown, seal brown, clay color, coraceous tawny,* and *raw umber.* The purple coloring associated with the brown canker disease may vary also from almost red to nearly blue.

which there had been no development, was still green and healthy at the end of the seven days.

Again, the coloring of a canker or other region invaded by the fungus may be nearly white, or may be of an undistinctive brown color. In the latter case it may be difficult to distinguish the disease from certain other fungous diseases affecting the canes, particularly those caused by closely related fungi. At times, also, diagnosis of the disease may be difficult on account of an insufficiency of diseased material. In such cases it may depend almost entirely upon the identification of the causal fungus in the laboratory. Where known material is not available for comparison, or where doubt remains as to the identity of the fungus, its characteristic growth on artificial culture media will usually remove any uncertainty. Week-old growths of the fungus isolated from the initial infection lesions, growing on cornmeal agar, are shown in D of Plate IX. There is probably little likelihood of confusing brown canker with the rose disease produced by the currant-cane blight fungus, *Botryosphaeria ribis* G. and D. (17).

On the Leaves. The spotting on the foliage consists of small purple spots or flecks and larger dead areas, in color characteristically cinnamon-buff bordered with purple, although occasionally they are nearly white (Plate I, F, G). The lighter colored necrotic centers of the latter are more or less circular in outline and often somewhat less than one-fourth of an inch across, although they range from about one-eighth up to at least one-half of an inch in diameter. They may later become broken and ragged and fall away. When present, the fruiting bodies may be recognized as minute black or brown dots borne singly in the dead centers of the smaller lesions or often arranged somewhat concentrically in the larger ones. Spots may occur on any part of the foliage, including the stipules. When located at the margin of the leaflets, as they often are, they are characteristically more or less semicircular, with the purple border extending to the leaf-margin only. The lesions are usually visible on the lower side of the leaflets, although on this surface they are less distinct. Fruit-bodies of the fungus may occur on this surface, although they are found more commonly on the upper surface of the leaflet. When examined with a hand-lens, spore masses may sometimes be seen at the mouths of the fruit-bodies.

Most rose foliage, as stated previously, is only attacked occasionally, but that of *Rosa setigera* is attacked rather commonly and sometimes so severely that the plant is defoliated (16).

On the Blossoms. Only the outer exposed petals are commonly affected. On these, large, nearly circular or elliptical areas are formed (Plate VII). These may increase in size until the entire petal is involved. The symptoms on the petals are in some respects similar to those of the leaf-spot and the cankers formed from the initial infection lesions. Regardless of the coloring of the blossom, the diseased areas are usually of the uniform cinnamon-buff shade that so often characterizes the disease on the other parts of the plant. The purple border, however, is absent. On the petals the zonate arrangement of the pycnidial fruit-bodies is perhaps more marked than on any other part of the plant attacked by the fungus, as is well illustrated in A of Plate VII. As usual, the pycnidial fruit-bodies are characteristically reddish brown or sometimes black, and with the aid of a hand-lens yellowish masses of spores, exuded from them, may often be seen. The diseased petals may remain attached or may fall to the ground, where, if not already entirely involved, discoloration may continue. Evidently, as a result of attack by the disease, buds may sometimes fail to open and in some cases may remain on the plant until the following year, as illustrated in A of Plate VI.

While the hips and the calyx lobes are subject to direct attack, the fungus perhaps more commonly invades the former by way of the petals. When this part of the flower is attacked it turns brown. The epidermis may become raised into pimple-like elevations which may later rupture, due to the formation of fruit-bodies of the fungus beneath the surface; the raised areas sometimes appear as lighter colored dots distributed over the surface of the hip.

On several specimens submitted by correspondents when reporting blossom blight or failure of buds to open, pycnidia of the brown canker fungus have been found on the petals. On a herbarium specimen, which had formerly been diagnosed as blossom blight and attributed to *Botrytis cinerea*, pycnidial fruiting bodies of the brown canker fungus were also present (3).

The Brown Canker Fungus. In the Test-Garden, in 1917, it was observed that where no previous injury was apparent the cankers seemed to have formed around small white or whitish spots (Plate V, B). The full significance of these spots was not appreciated until somewhat later, however, when it was learned that the fungus seems not to be dependent upon wounds for its entrance into the host tissues. Under favorable conditions initial infection seems to take place on the uninjured, tender, new growth. In the initial infection lesions formed on the current year canes the mycelium of the fungus usually remains quiescent until the late winter or spring. It then resumes activity and the cankers develop, as is well illustrated in D and E of Plate I and in B of Plate V.

In the writer's first paper the microscopic characters of the fungus causing brown canker were described and illustrated under the scientific name *Diaporthe umbrina* n.sp. It will be recalled that early in the work the disease was reproduced with pure cultures of the fungus which were isolated from specimens collected in the Arlington Garden, and that Dr. L. M. Massey, acting as pathologist for the American Rose Society, also isolated the brown canker fungus from diseased rose-canes received by him from a correspondent in Connecticut; with this pure culture he had also reproduced the disease. Upon discovering, through a culture submitted to the writer, that the two fungi were identical, Dr. Massey courteously discontinued the investigation. In terminating the work, however, he very generously forwarded to the writer the results he had obtained.

In nature, as well as in artificial cultures, the pycnidial form of the fungus usually develops in great abundance in a few days' time. Although occurring less generally and appearing some-

PLATE XII (II). A plant of Kaiserin Auguste Viktoria which has become one-sided from continued attack by brown canker

The two canes with the cut ends were the only green stems remaining on the plants by pruning-time (April). These showed lesions and cankers. The additional growth was made during the summer. Photograph made October, 1924; reduced one-half.

PLATE XIII (III). Brown canker. Initial infection lesions on canes less than a year old (A-C) and on a three-year-old cane (D)

A, Oakmont cane photographed in June while the spots were still purple. B and C Gloire Lyonnaise canes photographed in February (B) and March (C). D, cane showing old as well as recently formed cankers. Photographed in March.

what later, the perithecial form is not at all uncommon. When present, it may usually be found in infected regions on the canes, or occasionally on rose hips. A review of the specimens* which have been preserved in connection with this investigation shows that in the vicinity of Washington, D. C., both fruiting forms of the fungus have been found during each season of the year.

The fruit-bodies of both the pycnidial or imperfect form and those of the perithecial or perfect form of the fungus usually soon rupture the epidermis. Except in old material, or when developed in the laboratory, the mouths or beaks of the latter form rarely protrude, while those of the former may or may not be visible (Plate IX, A, C). In its structural development, the imperfect form of the fungus varies greatly. It is usually located beneath the epidermis, although it may sometimes be almost entirely superficial. All of the fruit-bodies visible in the illustrations accompanying this article are the imperfect form of the fungus. In color, the pycnidia are characteristically reddish brown or sometimes black.

Spore masses, or, occasionally, tendrils of spores exuding from the mouths or pores of the fruit-bodies are often visible with the aid of a hand-lens. In A of Plate IX, spore tendrils from the perithecial stage of the fungus are shown. A microscopic examination of these tendrils showed that the spores had been exuded in the microscopic sacs (asci) in which they were borne. In C of the same Plate the tendrils consist of spores from the pycnidial stage of the fungus. Spores taken from the tendrils illustrated in both A and C germinated readily when placed in tap-water.

It was mentioned in the writer's first publication on brown canker that the spores of the pycnidial stage may remain alive after several months' desiccation in the laboratory. In more recent preliminary laboratory experiments, cultures of the fungus, containing both spores and mycelium, continued to grow in the normal manner after having been frozen for several days. In another case, where a very few spores from a pure culture of the fungus were introduced in moist sterilized soil in

* These specimens, numbering about 350, are inthe herbarium of the Office of Mycology and Disease Survey, U. S. Department of Agriculture.

Erlenmeyer flasks, mycelium, or the vegetative part of the fungus, and immature fruit-bodies, apparently of the imperfect form, were later obtained. Several weeks later, dry soil from these flasks, transferred to sterile cornmeal agar, gave rise to the characteristic growth (see Plate IX, D) of the fungus on this particular medium.[1]

Control. The control of brown canker, occurring as it does on one of our most widely cultivated outdoor ornamentals, presents varied problems. There is still much to be learned before a control adaptable to different situations or cultural requirements may be recommended.

Exclusion. In the writer's first article, the suggestion was made that, if possible, only plants from sources free from the brown canker fungus should be introduced into healthy gardens. Later, when additional information bearing on the life-history of the fungus was obtained, the evident importance of this precautionary measure was again stressed (3).

The apparent value of the principle of exclusion, as applied to brown canker, is shown in various ways. It is expressed in the examples which are cited in the section under "Importance."

In the instance where the diseased nursery plants were being sold for home-garden planting, the initial infection stem lesions produced by the brown canker fungus were clearly evident. The ease with which, during a single growing season, the fungus might be introduced by this means alone into otherwise healthy gardens is readily understood. With reference to the introduction of the fungus into the Arlington Garden, there are, of course, two possibilities: First, that the fungus may have been originally introduced from nearby sources; second, that it may have been harbored on contributions from firms or individuals who were not aware either of its presence on the plants donated or of its significance in the culture of outdoor roses. On the other hand, the writer has recently seen extensive plantings of susceptible varieties which were free from brown canker, although growing in regions where this disease is known to exist. These were in a large rose-distributing nursery where the practice of introducing little or no rose material from the

[1] The additional information at hand on the brown canker fungus will not be summarized in the present treatment.

outside is rigidly maintained. Unfortunately, it has not been known whether there are sections of the United States still free from the fungus causing brown canker. It may be said, however, that during the last two years the fungus has been collected in almost every locality that the writer has had occasion to visit.

Eradication The historical information available at present, bearing on the elimination of the fungus from rose-gardens, is quoted here for purposes of reference. It deals mainly with the removal of infected canes:

In 1906, Sheldon (14) stated that the fungus had "been nearly eradicated from the rose-garden at the [West Virginia Experiment] Station by cutting out of the diseased canes"; he mentioned later (15) that control could be effected "by removing the canes early in the spring."

More recently, and as applied to conditions existing at Newark, Del., the removal of diseased canes has not accomplished control, as is expressed in a letter dated April 27, 1925, received from Dr. J. F. Adams, Pathologist at the State Agricultural Experiment Station, Newark, Del.:

> Professor Houghton heartily agrees with you that the brown canker disease is very disturbing to the home-garden planting of roses. He . . . has, for several years, cut out the diseased canes early in the spring. This practice, however, has in no way reduced the prevalence of the disease as it has gradually increased in prevalence the last three years.

A third mention of the principle of eradication as applied to the control of brown canker is embodied in the control suggestions offered by the writer when reporting in 1918 the first finding of the disease at Arlington. These suggestions were based, as stated at the time, upon what was then known of brown canker "and its causal fungus, together with the control measures employed for diseases of a similar nature." The removal of infected canes the previous spring had not effected even partial control, as will be mentioned again in the following paragraph. For this reason the use of a fungicide was included in the control suggestions, as will also be referred to later. With regard to the control principle under discussion, it was suggested that "measures leading to the eradication of the fungus be adopted." In this connection it was stated that

"cankered stems should be cut away and burned, and that it might be advisable to disinfect the cut ends of the stems and to sterilize the pruning implements after each operation." It was further suggested that "gardens should be carefully watched in the spring in order that the stems showing infection may be cut away and not become sources of secondary infection."

The kind of care given the plants in the Arlington Garden, in connection with the behavior tests for which the garden is now maintained, is explained in the following quotation from the article, entitled, "The National Rose Test-Garden in 1917," which was prepared for the 1918 Rose Annual by F. L. Mulford:

> The endeavor has been to give culture similar to that which would be given by an ordinarily careful householder rather than that of an expert rosarian . . . Spraying has not been practiced, as insects have not been troublesome, and it has been felt that a reading on the extent of the disease-resistance was valuable.

When the occurrence of the brown canker disease was first discovered in the Test-Garden, the infected canes were almost immediately removed and burned. This was done by the gardener in connection with the spring pruning, and after each operation the cut ends were disinfected and the pruning implements sterilized.

The following March, however, even in the absence of hail-injury, the disease was again prevalent, particularly in the Tea and Hybrid Tea beds and on many varieties in the Hybrid Perpetual beds, such as Paul Neyron, Gloire Lyonnaise, Oakmont, and others. The ramblers, with certain exceptions, and the other varieties affected the previous spring were now not so generally infected. For this reason, only the Teas and Hybrid Teas and the Hybrid Perpetuals referred to in the preceding sentence are particularly concerned in the present discussion. This also applies to the experimental work reported upon in the next section. During each succeeding year the greater part of the diseased plant material has been removed in the spring pruning, usually in April. In the Tea and Hybrid Tea beds, in many cases, this involved the removal of entire plants. Many of the plants thus unfortunately lost were replaced by the same or by other varieties of the same class, only to suffer a like fate sooner or later. The brown canker disease remained the plague of the garden.

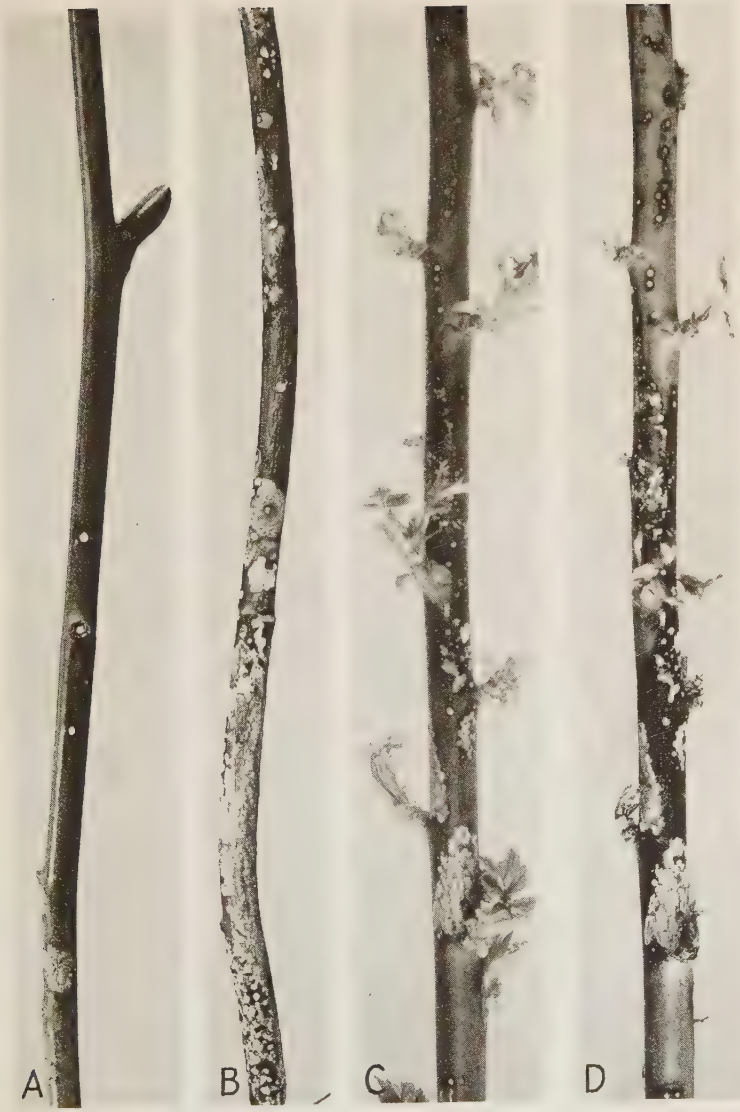


PLATE XIV (IV). Brown canker. Initial infection lesions on one-year stems of La Tosca (A and B), and Gloire Lyonnaise (C and D)

A, B, and C were photographed in March, as soon as collected. D is the same stem as C, photographed a week later, after having been kept in the laboratory with the cut end in water.

PLATE XV (V). Common canker (A) and brown canker (B)

Cankers of common canker often develop about wounds, while those of brown canker typically advance from the small white spots resulting from initial infection

PLATE XVI (VI). Brown canker. Die-back on stems of Mme. Camille (A) and cankers on a Gloire Lyonnaise cane (B) resulting from infected blossoms of the previous season.

Pycnidial fruiting bodies were numerous on the weathered bud in A. The light-colored cankers in B were formed during the early spring from the nearly simultaneous advance of the fungus from the three lateral blossom-spurs. Photographs made March 27, 1924.

PLATE XVII (VII). A blossom of Gloire Lyonnaise (C), two petals Countess of Gosford (B), and Cakmont (A), which have been attacked by the Crown canker fungus.

Enlarged about two diameters

In connection with the regular spring pruning and removal of infected plant parts, it is recalled that, from the attempt of the gardener to leave even a few inches of stems yet alive, many initial infection lesions harboring the fungus necessarily remained. Such canes usually died directly or before the season was over. This eradication measure, then, after further trials and under the conditions which prevailed in the garden, was impracticable culturally, as well as from other standpoints. In the same connection, a somewhat more concrete example will be cited, applying, however, to conditions obtaining from May until November of the present year on a number of everblooming varieties in the nursery at Bell. It pertains especially to the check row, for an adjoining parallel row, thoroughly sprayed twice a week with 4-4-50 Bordeaux mixture alone up to the middle of October. For the better understanding to be gained at this time from the spraying experiment, the history of the plants in these rows will be briefly stated.

The plants were propagated in 1923 at the Bell Experiment Station. The growth of these plants was examined in November, 1924, when scattering initial infection lesions were found. In the spring of 1925 the one-year wood was pruned back rather closely. The succeeding new growth was not sprayed. This was not seen by the writer until May 1, 1926, when the canes for the illustrations shown in A to E of Plate I were selected at random as representative of the seriousness of the disease at that time. The greater part of them were entirely dead, although a few were apparently healthy. The variegation exhibited in the necrotic regions as contrasted with the green of unaffected or partially diseased canes, was very striking. Instead of immediately rooting out the plants, the writer suggested that they might yet serve a further purpose, that of making additional experiments on control, and they were left *in situ*. A number of plants entirely dead, however, were immediately removed. On the remaining plants, the diseased wood was cut out as thoroughly as possible. As at Arlington, however, short stubs showing initial infection lesions or small cankers were occasionally left.

About fifty of these three-year-old plants remained in each row, from which the one-year wood had thus been removed in a greater or less degree. About half of the plants were La Tosca and the vacant places, about twenty in each row, were replaced by healthy Gloire Lyonnaise plants from 4-inch pots. All of the plants were fertilized and kept well cultivated throughout the season.

For convenience in this article, further remarks on the control experiment refer only to the La Tosca and Gloire Lyonnaise varieties, which were present in the greatest number. Both varieties are extremely susceptible to attack by the brown canker fungus.

On June 15 no lesions could be detected on the newly formed La Tosca stems. Some of them showed green blossom buds, and these, too, appeared healthy. The writer had no further oppor-

tunity to examine the plants until about October 1. At this time most of the Gloire Lyonnaise plants had developed canes about 2 to 3 feet long. On the basal portions of nearly all the canes in the control row, bluish purple spotting had by this time appeared, which in two weeks was nearly white. As was anticipated, fully developed separate or confluent initial infection lesions were abundant on various parts of unsprayed La Tosca canes, and even on the lateral branches. A rather unexpected reading was to be gained from the unsprayed row of the experiment, however, for of the flower-buds, which were apparently healthy when observed in June, many had become infected. From these buds, which failed to open, the disease had advanced downward, in many cases 10 to 12 inches or to the base of the stem. Stems which had developed later also showed die-back from blossom infection, although it had not advanced greatly. Much of the foliage of the La Tosca variety had fallen, evidently from attack by black-spot (due to *Diplocarpon rosæ* [Fr.] Wolf), so that at the close of the present growing season the outlook for these two varieties in the unsprayed row is not promising.

In concluding the section on eradication, it may again be emphasized that the initial infection lesions are potential cankers; that a single lesion easily overlooked might in the end cause as great losses as would result from a much more conspicuous infection. The lesions first appear on the new canes, although in some cases they do not become visible for some time. They are, at first, purple, later becoming white, and by midwinter may be more prominent than they were in autumn. In these lesions the fungus may be harbored for one or for as long as three years, although cankers usually develop from them only during the winter and spring. The bud wood, which has been referred to in the section under "Importance," was considered to be healthy in the fall when heeled in. At this time initial infection lesions in greater or less number must have been present, and by March cankers had developed from them. Other valuable and interesting chronological readings are afforded by these small lesions.

Protection. The first spraying experiments carried on throughout the growing season were made in the Arlington Garden in 1924 (3). The disease had become so serious on the

Tea, Hybrid Tea, and on certain Hybrid Perpetual varieties that Mr. Mulford determined to forego the varietal test work temporarily in order that spraying experiments might be conducted. The writer arranged the experiment with the assistance of E. A. Siegler, Dr. L. M. Massey, and Dr. Errett Wallace. It was believed that the prevention of the formation of initial infection lesions on the canes would be the most important factor in the control of the brown canker disease. The experiments were, therefore, planned with this object in view. Initial infection, it was thought, might be prevented by keeping the tender new growth covered with a suitable fungicide.

Further reference to these experiments relates to two varieties in adjacent rows in the Hybrid Perpetual section of the Garden from which the diseased canes were not pruned in the spring. These varieties are Oakmont and an unnamed Hybrid Perpetual. From this plot of twelve plants, four at one end were sprayed once a week with Bordeaux mixture and lead arsenate; four plants at the opposite end were sprayed with nicotine sulphate; the other four plants were left untreated. Nicotine sulphate was used to prevent the possibility of infection through injury due to aphids or other sucking insects. Nevertheless aphids were present on the plants receiving the nicotine treatment. The first three or four applications of Bordeaux mixture were applied at the rate of 4–4–50, the subsequent ones at the rate of 3–3–50. In order to prevent injury from chewing insects, lead arsenate in the proportion of one pound (powdered) to each 50 gallons of the Bordeaux mixture was added, as was also a commercial spreader.

At the end of the season, on the current year's canes of the four plants sprayed with Bordeaux mixture and lead arsenate, initial infection was practically prevented. As late as February of the following year only four initial infection lesions could be detected. These four lesions were discernible in midsummer and were grouped on a single stem. Nearly all of the new canes on the other eight plants, which included the four plants sprayed with nicotine sulphate and the four left unsprayed as controls, were severely infected. Initial infection lesions were abundant on these by June (Plate III, A), while the plants were still in flower. Throughout the season, lesions continued to appear

on the newly formed canes. On the plants sprayed with Bordeaux mixture, blossom-infection was practically prevented. On the other hand, the blossoms of the eight plants which received no Bordeaux mixture were abundantly infected.

The results of this experiment are confirmed by the results thus far obtained in a similar spraying experiment conducted at the Bell Experiment Station during the growing season of 1926 and described in the previous section. In the unsprayed row, as there explained, the highly susceptible varieties, Gloire Lyonnaise and La Tosca, are severely infected.

It was observed that practically all of the new canes on the Gloire Lyonnaise plants began to develop about the middle of August. On November 1, those in the sprayed row showed about as much infection as those in the control row. Since, on most of the canes, the lesions were grouped near the base, it would appear that initial infection occurred when the canes were only a few inches in height. During this period there were many days of heavy precipitation, and it was necessary to omit the regular sprayings for two weeks. This may account for the nearly equal amount of infection on this variety in both the sprayed and unsprayed rows.

The treatment for the La Tosca variety was made as for Gloire Lyonnaise. The plants in the sprayed row on November 1 showed only about one-fifth as many initial infection lesions as those on the unsprayed rows. Confluent lesions were only occasional, and on the lateral branches infection was practically absent. On a number of canes no lesions were visible, while on others they were present and grouped in the characteristic manner near the upper part of the cane. It is suspected that such lesions were formed while the growth was in a susceptible stage and not covered by the fungicide. On the sprayed La Tosca plants, blossom blight was evidently well controlled, as on November 1 there was little or no die-back from this source. Due to the control of black-spot, the sprayed plants retained their foliage longer and were larger in size than those not sprayed.

The entire Test-Garden was sprayed with Bordeaux mixture (4-4-50) during the growing seasons of 1925 and 1926. In other respects the general care of the garden has not been changed.

PLATE XVIII (VIII). Brown canker on scion of Mrs. Wakefield Christie-Miller
On both cuttings and scions the lighter colored cankerous areas developed at the surface of the soil

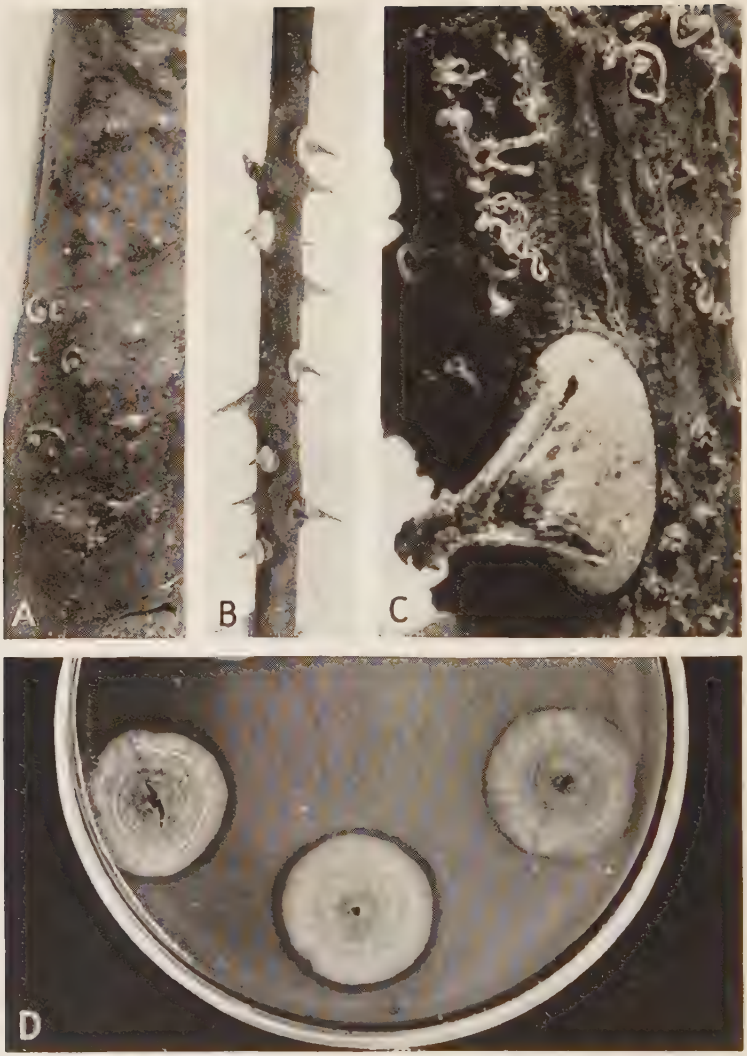


PLATE XIX (IX). The brown canker fungus, *Diaporthe umbrina* Jenkins (A, C, and D), and cankers (B) forming in early spring about thorns of the Margaret Dickson rose.

A. Spore tendrils protruding from the perithecial fruiting bodies of the fungus situated beneath the pimple-like elevations. These tendrils were present on a canker of the Paul Neyron variety collected one foggy April morning. (Enlarged about eight diameters.) C. Pycnidial fruiting bodies rupturing the epidermis (lower right corner) and spore tendrils extending from the mouths of others (above thorn) are shown in this enlarged photograph. This is a portion of the stem shown in B after it had been kept for some time in a moist chamber in the laboratory and had become entirely invaded by the fungus. Pycnidia with masses of exuded spores were present in a few days' time, while at the end of a month the long notched tendrils had formed. In adjoining regions, perithecia with unusually long beaks which projected above the surface were evident at the end of three weeks, although the asci contained in them were still immature. D. Three cultures, one week old, grown on cornmeal agar in a petri dish, each one having developed from the planting of an initial infection lesion.

In the absence of unsprayed plants for a comparison, a definite reading on the results obtained from this spraying cannot be made. It may, however, be stated that though the disease was prevalent during previous years there has been positive control during the past two seasons. In 1925, seven applications of the fungicide were made, and during the season just passed, five applications. During both seasons, one pound of fish-oil soap was added to each fifty gallons of Bordeaux mixture as a spreader and to check aphids.

Literature Cited

1. *American Joint Committee on Horticultural Nomenclature.* Standardized Plant Names.

2. *Jenkins, A. E.* Brown canker of roses caused by *Diaporthe umbrina.* Jr. Agri. Res. 15: 593–600, illus. 1918.

3. ——Brown Canker caused by *Diaporthe umbrina.* In Diseases of Forest and Shade Trees, Ornamental and Miscellaneous Plants in the United States in 1923. U. S. Dept. Agr. Plant Dis. Rep. Suppl. 37: 407–409, March 30, 1925.

4. ——Brown canker of roses. Mycologia 17: 87–88. 1925.

5. ——Brown canker of roses caused by *Diaporthe umbrina* Jenkins. U. S. Dept. Agr. Plant. Dis. Rept. 10: 112. 1926.

6. ——*and G. Hamilton Martin.* Brand canker of the rose appears in America. U. S. Rept. Agri. Off. Rec. 5: 3. 1926.

7. *Laubert, R.* Eine neue Rosenkrankheit, verursacht durch den Pilze Coniothyrium wernsdorffiae. Ark. k. Biol. Anst. Land. u. Forstw. 4: 458–460. illus. February, 1905.

8. *Lintz, C. L.* Rose-lovers at the National Capital. Florists' Exchange 45: 1615 and 1638. 1923.

9. *Ludwigs, Karl.* Krankheiten und schädlinge an Rosen. Prakt. Ratg. Obst. u. Gartenb. *41:* 198. illus. May 30, 1926.

10. *Norton, J. B. S.* Plant diseases in Maryland in 1902. Rept. 5th Ann. Meeting Md. State Hort. Soc. V: 90–99. 1902.

11. *O'Gara, P. J.* Parasitism of *Coniothyrium Fuckelii:* Phytopath. 1: 100–102, illus. 1911.

12. *Ridgway, Robert.* Color Standards and Color Nomenclature. 43 pp., 53 col. pl., Washington, D. C. 1912.

13. *Sheldon, J. L.* Report on plant diseases of the State. Rept. of Work. W. Va. Agri. Exp. Sta. 1903 and 1904: 89, illus. 1905; also in W. Va. Agri. Exp. Sta. Bull. 96: 95. 1905.

14. *Sheldon, J. L.* The principal plant diseases in 1906. W. Va. Exp. Sta. Rept. 1905 and 1906:38. 1906.

15. ——Some rose anthracnoses. Phytopath. 8:70. 1913.

16. ——In Diseases of Forest and Shade Trees, Ornamental and Miscellaneous Plants in the United States in 1922. U. S. Dept. Agr. Plant Dis. Bull. Suppl. 29: 446. 1923.

17. *Stevens, Neil E., and A. E. Jenkins.* Occurrence of the Currant Cane Blight Fungus on Other Hosts. Jour. Agr. Res. 27: 837–843, illus. 1924.

18. *Westcott, Cynthia.* An epiphytotic of brand canker of roses caused by *Coniothyrium wernsdorffiae* Laubert, U. S. Dept. Agr. Plant Dis. Rep. 10:38–40. 1926.

Editorial Summary

Brown Canker is probably a native disease. It has been recognized for twenty-five years, but was not considered serious by pathologists until recently.

All roses are susceptible. Teas, Hybrid Teas and Hybrid Perpetuals seem most affected.

It is generally distributed throughout eastern United States, and may be expected anywhere.

It kills the rose stems by girdling them. Its damage to leaves and flowers is not serious in the garden.

It is most active in late winter and early spring, and probably accounts for much damage heretofore ascribed to winter injury.

Its symptoms and appearance are accurately portrayed in the pictures accompanying Miss Jenkins' article.

It may be controlled by thorough spraying with Bordeaux mixture early in spring and throughout the growing season.

The Editor is also informed that thorough spraying with Uspulun and Semesan, two new mercuric products, has been found effective in destroying this new disease and has also been beneficial in controlling black-spot.

Therefore the methods of control recommended by Miss Jenkins and those which amateurs have worked out seem to fit in closely with the proper control of black-spot, and it is believed that the treatment for Brown Canker will almost, if not entirely, eliminate black-spot.

As the Retail Florist Sees Roses

By MAX SCHLING, New York City

EDITOR'S NOTE.—A note of originality, sometimes daring, always attractive, has characterized Mr. Schling's very remarkable retail flower business in the metropolis. Therefore his review of roses is a most valuable analysis of the New York rose market and an admirable statement of aims and ideals of progressive florists.

OF ALL the flowers we grow and of all the flowers we sell, there is none known so universally as the rose. No flower is more used and more beloved by the public. No flower can be used in more forms for gifts of every kind and for every occasion.

Roses represent practically 75 per cent or more of our total sales. In selling, they represent 100 per cent in our thoughts. About 90 per cent of our purchasers turn instinctively to roses or to combinations with roses.

From the point of view of a retail florist I will try to explain not only the needs of the retailer, but also the needs of the buying public at present, altogether in the way of constructive criticism.

Years ago it was easy to sell roses, and it was easier to sell other merchandise in competition with roses because of the few varieties then grown: Bridesmaid, Bride, Perle des Jardins, Richmond, Sunrise; in the spring of the year, General Jacqueminot and Ulrich Brunner, and the queen of them all—the American Beauty. Here and there we had a few odd flowers from some other variety—Gloire de Dijon, Maréchal Niel, Niphetos, and others. It was easy to satisfy the average buyer with either these roses or with some nice flowers of other types —lily-of-the-valley, sweet peas, and the like.

People bought flowers by the dozen, or boxes of loose flowers; but by degrees their demands grew to a higher standard. They were tired of the sameness of their gifts. Not our own initiative, not the progressiveness of the retail florists or growers, but the progressiveness of the public started to influence the development of the retail flower business in America, and instituted greater ambition among both the growers and retailers. This

higher-developed taste and more refined artistic demand, this looking for new beautiful gifts, gave me the idea of combinations of harmonious coloring in baskets and other vessels. The few unusual or odd roses which the market offered were wonderful material for that work. The rose-grower was in haste to catch up in offering new types, to keep up with the demand. It continues; every time a new type of rose turns up in the market the demand for it is already there, only restricted by the high price of the novelty.

What we need now is not only good new roses; we need a co-operative educational campaign. Many articles have been written about the lasting quality and form of roses; about the disappointment which one or the other rose brought to the grower; about the non-productiveness of others; and the specific grower who made these statements was correct in his way. He was correct also in stating that certain varieties are not worth while growing. If we want to increase the sale of roses, if we want to offer the public the best to be had, we must consider that most of our roses, with few exceptions, have, each one, a certain season of the year where they are most nearly perfect. Just at present Columbia and Briarcliff produce far better flowers than any other pink rose. In September and October, Hill's America was more serviceable and more beautiful; it had better stems. In March and April, it may be the Premier which the public will favor more as a practical, well-keeping rose of excellent form. In table decorations, a Sunburst rose with its golden brown tone and its long and elegant flower is for some purposes far more beautiful than the Souvenir de Claudius Pernet rose, while the latter as a half-open rose for the same work, in combination with some other flowers, may be far more impressive, show better lasting quality, and retain its color for a longer period. Because Sunburst roses are usually grown with short stems, good for design work only, the competition in sales of yellow roses concentrates between Roselandia and Souvenir de Claudius Pernet. Of the two, the latter is in a distinct class by itself, being higher priced, and for that reason not available to the masses which have to be satisfied with the possibly not-so-beautiful but far daintier, prettier, softer yellow tone of Roselandia.

In red, we have really only one rose without competition, and that is Sensation which shows the best lasting quality among the red roses offered at present, the most wonderful color, with a good stem and a nice form; but growers and retailers both have complained that the outer petals are black or spotted at times.

I mentioned an educational campaign necessary among the most concerned branches of our profession. This is one of the items which should be impressed on the man who supplies the public. The grower tries to produce the best possible flower, and the retailer must put it in the nicest possible form. To take off the faulty petals of the Sensation does not improve the flower, but turning the outside petals over, giving the rose a shape and form of a half-opened camellia, will automatically screen the black spot of the petal, remove the unsightliness, and improve the beauty of each individual flower. Incidentally, the rose is not harmed by this turning over of the outside petals —it is improved. Another beneficial advantage of this process is that the heart of the rose is tightened by the turned-over petals. The rose does not open so quickly and in consequence, keeps longer.

As a whole, it is difficult for most retailers now to select from the many variations of roses grown those that are best for the public to buy. There is too much waste in growing, and a still greater waste in selling. There should be weeded out varieties which are not profitable for the grower or the retailer, and which are surely not beneficial to the public, because in the final analysis the roses with good qualities have to make up for the loss on those with poor qualities, and who is paying the piper?

Roses grown in large quantities for the New York market in pink varieties are: Briarcliff, Premier, Silver Columbia, Mme. Butterfly, Matchless, Hill's America, Columbia, Pilgrim, and Mrs. Charles E. Russell.

The red varieties include: Sensation, Templar, Red Premier, Senator, and Mrs. F. R. Pierson.

Of yellow sorts we get: Souvenir de Claudius Pernet, Mrs. Calvin Coolidge, Mrs. Aaron Ward, Roselandia, and the still popular Sunburst.

It is up to the hybridizer to produce new and better roses, but it is up to the large growers themselves to form a committee not to let anything go out unless it is absolutely satisfactory. Many disappointments and a lot of waste might thus be prevented.

Two roses are in a class by themselves: American Beauty and Francis Scott Key.

It is regrettable that more "Beauties" are not grown. I do not believe that our growers cannot produce them. Perhaps it is because American Beauty does not bring the same return per square foot as some other varieties. In many parts of the country Francis Scott Key or Mrs. Charles E. Russell are being substituted for American Beauty, but a well-grown Francis Scott Key is never a real replacement for a well-grown American Beauty. It is a larger rose, it is true, and in comparison with the present supply of American Beauty, it is a better keeping rose, but it has not the fragrance of the American Beauty, nor its grace. Either the stem of the Francis Scott Key is too stiff or it is too soft. A yet greater disadvantage is that the Francis Scott Key turns into an ugly bluish color the moment warmer weather sets in. For decorative purposes it is a wonderful rose. For a personal gift, for an intimate gift, a Francis Scott Key rose will never reach up to the American Beauty.

We, both growers and retailers, are trying to increase and broaden our business; we are working for progress. Most of us are unselfish in our efforts. Most of us have the ambition to give such service that it should be favorably commented on. To keep this up is only possible by coöperation—one to try to produce the best, the other to show it in the most pleasing form. We advocate beauty in every home—a rose in every home. As we supply beauty in the form of roses to every home, we continuously increase the expectations of those we serve. Therefore we must give more thought, more attention to the most beautiful sentiment in the life of humanity—the sentiment of the rose; and we must give more consideration and more care to the rose itself.

The Cut-Rose Situation in New York

AN INTERVIEW WITH FRANK H. TRAENDLY, OF NEW YORK

By E. L. D. SEYMOUR, Associate Editor of *The Florists' Exchange*

EDITOR'S NOTE.—Mr. Seymour has, with his acute questions to the man who knows, gone right to the heart of the rose business in the metropolis. What he reports for Mr. Traendly is surely of vast encouragement for those who believe that quality wins. A past president of the New York Florists' Club and of the Society of American Florists, Mr. Traendly has also served as a vice-president of the American Rose Society.

SEEKING to analyze the cut-rose situation in the East, one naturally looks toward the New York City market where, according to conservative estimates, anywhere from ten to fifteen million dollars worth of flowers are sold every year. As to a source of facts about that market and its trends and preferences, there is none better informed than Frank Traendly, who for nearly half a century has been distributing and popularizing flowers.

Born in Brooklyn, where his father had a florist shop, he really grew up with roses. In 1894, in partnership with Charles Schenck, he formed the wholesale cut-flower firm of Traendly & Schenck which, in 1899, branched out into the rose-growing business by buying an 85-acre farm at Rowayton, Conn., and building greenhouses which, in their present enlarged form, represent a total of some 220,000 square feet of glass. Thus, Mr. Traendly possesses a first-hand knowledge of both the selling and the growing ends of the industry.

During an interview about the middle of January, he replied in answer to a general question as to the rose varieties that make up the New York market, by referring to one of his company's printed sales slips which, with three of the newer sorts written in pencil, gave the following list: Premier, Columbia, Silver Columbia, Briarcliff, Hill's America, Rapture (a newcomer), Mme. Butterfly, Souvenir de Claudius Pernet, Golden Ophelia, Mrs. Calvin Coolidge, Mrs. Aaron Ward, Templar, Francis Scott Key, Mrs. F. R. Pierson (another novelty), Killarney White, and Florex (a third new one.)

"And which is most popular in New York?" I asked.

"Those that you see at the top of the list. Undoubtedly, the

Premier and Columbia types are the most largely handled here, and rightly enough, for they can be called the best roses that have ever come on the market. The popularity of the Premier color, too, helps to keep that rose at the top. In the Columbia group, Silver Columbia is good, and Briarcliff, the newest of them, is so good that it looks as though it would eventually take the place of all its relations, for it is a rose that satisfies both grower and seller. It comes in a wide range of lengths and prices, and therefore appeals to and suits the needs of all classes of buyers. To some extent this can also be said of Premier and Mme. Butterfly, which helps to account for their great popularity in the darker and lighter pink divisions respectively. Matchless is a 'comer,' too; better than Columbia, I would say.

"It is a pity that Hill's America is not a better cropper, for, though produced by only a few growers, it is of excellent quality and a fine keeper, easily outshining the others in this respect if it is done and handled right.

"In reds, Templar has been the leader up to now, but Mrs. F. R. Pierson, if done well, is good enough to outrank it; as yet there is some disagreement among growers as to the success with which it can be handled. Considering quality alone, Francis Scott Key still is the standard high-priced red, but of course it cannot be produced for the same figure as the other two, though it is well worth its extra price.

"In the yellow class, Souvenir de Claudius Pernet stands at the top, even though it is called by some growers 'a hard variety to handle.' For those who can turn it out it is fine. Mrs. Calvin Coolidge also seems to be making good, and, in the moderate price range, Golden Ophelia is entirely worth while.

"Among the whites there is nothing better than Double White Killarney; it remains the standby in this market, though its tendency to mildew with some growers is a real drawback."

I asked Mr. Traendly about the new roses now in sight, or those just coming on the stage. He replied:

"Florex probably comes first, at least as far as meeting the approval of many growers is concerned. Certainly there is much of it being taken by them, and it seems to have made a good impression on cut-flower buyers, too, where offered. Naturally I am hopeful for Rapture, our sport from Ophelia;

it is a stronger grower than its parent, and highly colored also, which seems to be a big point in its favor here in the store. Fontanelle, E. G. Hill Company's seedling of Mme. Butterfly and Souvenir de Claudius Pernet, is naturally interesting because we are always on the lookout for good yellows.

"Two other promising sports are Heacock's Lucinda (from Columbia) and Totty's Red (from Premier). Both are offered by men who know good roses when they see them and both certainly have parents to be proud of.

"Speaking of these or any new roses, though, they ought to be given plenty of time and a fair trial before they are judged. Growers tend to be too quick in coming to conclusions and in expressing those conclusions, especially if they are unfavorable. The first year in a greenhouse doesn't tell the story by any means, nor does the second. Yet how often do we begin to hear a new variety 'knocked' almost before it has begun to get its bearings! Sometimes outstanding varieties make their way in spite of this sort of criticism—Columbia and Premier did, for example. But I believe we would stand a better chance of securing more and better sorts if we were not so ready to judge by early, unproved performances."*

Then I asked about the qualities desired in a new rose.

"Well, the cut-flower market must have, of course, size of bloom; then there must be length and stiffness of stem to insure both appearance when displayed in a vase or basket, and keeping qualities. Speaking of keeping qualities, though, I want to say that although what's in the variety counts for a good deal, the way a rose is handled makes a lot of difference. And there are many rose-buyers, and altogether too many rose-sellers, who don't know how to treat cut-roses so they will keep. To take up water and keep a flower from wilting, a stem has got to be straight; naturally, a flower with a broken neck or a weak stem isn't going to keep fresh. It doesn't help keep a stem straight to stick it in a short container so that the weight of the bloom and the foliage is all the time bending it over. Then, too, you'll never get flowers to keep if they are placed in a draft that pulls the water out of them quicker than they can take it up.

*The Editor here ventures to refer to Mr. Bredero's article on bud selection (see page 75) as affording an explanation of the inadequate performance of new roses that have been over-propagated.

"But getting back to desired qualities, a good rose must be a good producer, since that involves the price factor. Unless the grower can turn it out in large numbers and at a reasonable figure, it will have to carry a high price that will cut into its sales and popularity. Finally, of course, a new rose must be of a color that will appeal to the public. Just at present the Columbia shade seems to be the most popular of all; and with its good head, good stem, fine foliage, and excellent keeping quality it well deserves its place at the top as a rose for anybody, though the Premier and Butterfly types follow closely."

"How important is fragrance in a new rose?" I asked.

"If you can get the things I have just mentioned and then add fragrance, too, you will have done a big thing, and your variety will meet a strong demand. But without the other features, it cannot carry a rose in the cut-flower market. Frankly, I wouldn't be able to tell you what are the more or the less fragrant roses that we are handling today."

I asked what place roses occupy in the New York cut-flower business. With a smile of assurance Mr. Traendly said:

"It is far and away the main thing. I would say that fully one-half of the money invested in cut-flower growing for this market is producing roses. Commercially the rose is certainly the 'queen of flowers' and I don't see that there is any logical contender for the honor. Furthermore, I believe that the quality of roses coming to this market is higher than that demanded anywhere else in the country. This doesn't mean that there are not growers in the Middle West, in New England, and elsewhere who are turning out top-quality stock, but only that New York buyers get the cream of the country's production."

"Considering both the grower's end as well as the market, Mr. Traendly, what are the rose producer's main problems?"

"The seasonal competition of other flowers is one factor that bothers the wholesaler and the grower. First come the summer flowers that can be got cheaply, and which, therefore, the retailers make much use of. After frost and up to Thanksgiving, the chrysanthemum is a big competitor; then, between its season and Christmas, the rose and the carnation have a little better chance. Christmas is coming to be largely a plant day as compared with past years, and this affects sales somewhat.

After the holidays, the availability of other flowers decreases and the real rose season sets in. This past season, weather and other conditions have helped an unusual demand to create a shortage of roses that has brought about high prices—higher almost than even the growers themselves like to see, for while some fluctuation is necessary, so they can make up for occasional extended periods of large supply and low prices, they realize that too high price levels are a boomerang.

"As a matter of fact, during the last several years the demand has kept pretty well up to the supply, so that on the New York market the old-time 'gluts' of roses are comparatively rare.

"As to the growers' problems, the biggest of all is cost of production and overhead expense. How can it be otherwise when you consider the modern wage scale, present building costs, and all the rest? Greenhouse firemen that used to get $55 per month are getting $200; coal that used to cost $1.25 a ton is bringing $3.50, and the freight charges on it have risen from $2.20 to $3.60 a ton. Whereas a quarter of a century ago a rose-grower was satisfied to get a gross revenue of 50 cents a square foot from his houses in a year, today his expenses rarely fall below 90 cents and may easily go above a dollar."

"Has the trend been toward an improvement in the flowers proportionate to the added cost?"

"We have, today, finer roses than we ever had before and in an infinitely greater variety of colors, sizes and types. Twenty years ago $25 to $30 was a common price for 'Maids' and 'Brides,' and lucky was the wholesaler who could get three dozen top-quality roses out of 100. Today, with an average price range for stock of comparable type $5 or so lower than those figures, a man can buy 100 blooms and count on selling every one of them as a representative flower of that grade!

"Better roses? We are getting better roses today than we ever did—better than anyone ever did. And that we can is due to the life-work of such men as E. G. Hill, Alexander Montgomery, John Cook, and the rest. If the seedlings and the sports that today are supplying our rose markets are miles above the varieties of yesterday—and they are—then it is simply another tribute to the skill and perseverance of the men who stand at the top of our rose-growing profession.

Conversation with a Rose Beginner

AN EDITORIAL IMAGINING

"I DON'T know anything about roses. I hear they are very difficult to grow. I suppose I can't have them unless I study a long while, or hire a gardener?"

All you need is a love of roses, a willingness to work a little, and a few square feet of ground, open to the sun at least half of every day and fertile enough to raise corn, peas, or potatoes.

On a square yard of such ground, you can grow one hardy climbing rose over a trellis or a fence, or on a post, or around a doorway. This will bloom in the early summer of the year after you plant it. The Hybrid Tea roses are smaller bushes, as also are the Polyanthas. You can grow them in any such space and get bloom within ten weeks after planting, and the whole summer afterwards until freezing weather. Hybrid Perpetuals are taller bushes, giving large, brilliant, fragrant flowers in June, and occasionally in the fall. There are many other kinds which you will find out about better for yourself as you read about them in good books, or in this Annual, or as you talk with your rose-friends.

"Can I have roses in my back yard?"

Surely you can have as many as you have room for, on the basis of planting the Hybrid Tea roses 18 inches apart, or even a little closer, the Hybrid Perpetual roses 2 feet or more apart, and the Hardy Climbers 5 to 6 feet apart.

"How do I know what varieties to buy out of the hundreds in the catalogues?"

On page 196 of this Annual is the report of the Rose Referendum which will tell you what to start with. These are presumably sure, but your greatest fun will be in the adventures you will have after you get started.

"How shall I know what kind of rose plants to buy?"

Start in the spring of 1927 with dormant, field-grown, two-year-old, budded plants which all the dependable growers offer. You can also get much smaller greenhouse-grown, own-root plants, which you must not plant until the nights are quite warm, and which may give a few flowers this season north of the Mason and Dixon line and may become large bushes in several years. They cannot be compared for immediate results with the larger, outdoor-grown plants. Climbing roses are usually on their own roots; they should be large, dormant, field-grown bushes.

"Do you recommend any particular rose merchants?"

Yes, we recommend all who as members of the American Rose Society advertise in this Annual,

"What about preparing the ground?"

Dig two spades deep if you have the energy, thus getting down at least 18 inches. If the soil is wet, you must drain the water away, for roses won't live in water any more than you. Good vegetable-garden soil is fine for roses. If you have any rotten stable manure, preferably cow-manure, dig in all you can get

of it. If you can't get any, buy commercial bone-meal and pulverized sheep-manure, and dig in a quart of the mixture for every 4 square feet. If you have any dry wood-ashes, put them in too. If you do not have any of these fertilizers, plant some roses anyway, and feed them afterward with liquid manure made by soaking horse-, cow- or sheep-manure in water. But start with planting the roses as well as you can, in whatever ground you have.

"Can I plant roses any time?"

In the latitude of Philadelphia, plant not much later than April 15 in spring; farther north you can plant later. It can't be too early. Or you can buy them in the fall, and either plant them then where they belong or bury the whole bundle over winter in a dry place. You can get roses in pots to plant anytime, but they're not best for the beginner.

"How about the actual planting of the roses?"

The roses must be kept moist all the time (for a dry rose is a dead rose). Take one plant at a time from the bucket of water in which you carry them, and spread its roots over a little mound in a hole deep enough so that the knot or bud of the plant will be about level with the surface of the ground. These roots must not touch any manure, and fine good earth should be sifted in around them and packed very tight. Then fill in, and firm the ground, even stamping it with the feet, until you can't pull the rose out of the ground.

"Pruning is very complicated, isn't it?"

The roses you plant will need to have the tops reduced to two or three good stems, and to not more than three or four buds on these stems. Mangled roots also should be cut off.

"Do I have to fuss with the roses all summer?"

Yes, you have to fuss with them, and if you don't think that is good fun, don't begin. Begin fussing by using either the Massey dust* or some other good fungicide once a week, as soon as the first leaves are half developed. Green lice are destroyed by a spray of a tobacco solution, like Black-Leaf 40. Rose-bugs can be combated by some commercial preparations or be picked off by hand. Don't worry about bugs and bothers; keep ahead of them.

Keep the ground stirred constantly, unless you prefer to mulch it after summer growth has begun. Cut the roses as they come, with long stems. Don't water unless the ground is very dry, and then soak it thoroughly and let nature take its course for at least two weeks.

"Will I have to get new roses every year because those I buy this spring freeze in the winter?"

You can carry over most roses easily with a little protection. Hilling up the ground around them just before it freezes is good, and putting evergreen boughs between and around the twigs is better. The protection you need is more from winter sun and winter winds than from frost.

"Where can I get more information as I need it?"

From any member of the Committee of Consulting Rosarians, from other parts of this Annual, and from many good rose books.

*The Massey Dust is a mixture of nine parts dusting sulphur (Not ordinary powdered sulphur, please!) with one part powdered lead arsenate. It controls both mildew and black-spot.

A Rose School in Texas

LETTERS TO THE EDITOR

FROM Mr. C. P. Sites, who has been making the rose count in the vicinity of Dallas, came in December, 1926, an urgent request for speaking aid at the "First Annual Rose School of the Dallas Rose Lovers' League," to be held in Dallas, December 14, 15, and 16. This Annual itself is a sufficient reason for the inability of the Editor to meet the call of this School, which was held with admirable results, as reported in later letters from Mr. Sites who wrote December 14:

> Notwithstanding the fact that we have had a drop of more than thirty-five degrees in temperature during the past twenty-four hours, and that we have on the worst blizzard of the season, we have had an attendance of about seventy-five lovers of the rose! Pretty good, weather considered.

The idea of the School, in holding morning and afternoon sessions for three days, is well expressed in the programme which is here reproduced, to serve as a suggestion for similar events in other parts of the United States. It is obvious that this scheme, differing wholly from the usual rose meeting in its orderly arrangement and presentation of papers, could easily be of the utmost value to those in attendance.

As will be noted, all sides of the rose were touched upon. Some of the speakers are men of proved competence and national renown. The sessions were held in a well-placed hotel, usually the best method for this or similar events.

The programme is appended:

FIRST DAY—Tuesday, December 14.

Morning Session—10 A.M. to 12 noon. Presiding: Norman R. Crozier, Superintendent Dallas Public Schools.

Registration and Organization.

Greetings: R. L. Poų, Chairman Agricultural Committee, Dallas Chamber of Commerce.

President's Address: R. B. Ellifritz, Managing Director Adolphus Hotel, Dallas.

School Plan Announcements: C. M. Evans, Director of the Rose School.

Afternoon Session—2 to 4 P.M. Presiding: Col. Frank P. Holland, Publisher of the *Texas Farm and Ranch* and *Holland's Magazine*, Dallas.

History, Origin, and Development of the Rose.

Types and Varieties of the Rose: N. M. McGinnis, Landscape Architect, Dallas.

SECOND DAY—Wednesday, December 15.

Morning Session—10 A.M. to 12 noon. Presiding: J. E. Surratt, Secretary of the Kessler Plan Association, Dallas.

Rose Investigations: W. B. Lanham, Horticulturist, Texas Experiment Station of A. & M. College.
Soils and Fertilizers for the Rose: George L. Foster, Director of Educational Bureau, Chilean Nitrate of Soda, Dallas.
Transplanting, Cultivating, and Watering the Rose: J. B. Baker, Baker Bros. Nursery, Fort Worth.

Afternoon Session—2 to 4 P.M. Presiding: C. P. Sites, Architect, Rose Lover and Rosarian.
Control of the Insects and Diseases of the Rose: A. P. Swallow, Arlancey Farm Company, San Antonio (formerly Horticulturist for the Extension Service of the Texas A. & M. College).
Pruning the Rose: F. K. McGinnis, Landscape Architect, Dallas.
Methods of Propagating the Rose: George S. Verhalen, Verhalen Nurseries, Scottsville, Texas.

THIRD DAY—Thursday, December 16.

Morning Session—10 A.M. to 12 noon. Presiding: Mrs. Gross R. Scruggs.
Roses as a School Project: Prof. Fred Westcourt, College of Industrial Arts, Denton.
Other Flowers as an Aid to Rose Decoration: Frank L. Bertschler, Superintendent of Parks, Beaumont.
Commercial Rose-growing: Thomas B. Foster, Secretary of the Southwest Association of Nurserymen, Denton.

Afternoon Session—2 to 4 P.M. Presiding: A. K. Short.
Roses in Art: Mrs. Julia Atwell, Head of Department of Fine Arts, College of Industrial Arts, Denton.
Address: T. O. Walton, President of A. & M. College.
The American Rose Society: C. P. Sites
Round Table Discussion.
Committee Reports.
Banquet: R. N. Ellifritz, Toastmaster.

Mr. Sites writes that one of the most pleasing features of the School was that nearly 40 per cent of the attendance, which averaged well over 100 a day, came from near-by communities.

A large part of this interested outside attendance was no doubt due to a series of twenty-five articles written by Mr Sites, which appeared in the Sunday issues of the Dallas *Press* for six months prior to the event.

The first result of this publicity was the organization of The Dallas Rose Lovers' League, which sponsored the School in order to disseminate knowledge of roses among its members and to stimulate interest in roses and friendliness toward the scheme of civic beautification which is naturally a part of its work.

The method of arousing rose interest in Dallas might well be used in other communities where the love of roses lies dormant. It is always there, and needs only the awakening call of a few interested enthusiasts.

The Favored Roses of America

THE 1926 AMERICAN ROSE SOCIETY'S ROSE REFERENDUM AS REPORTED BY THE SECRETARY

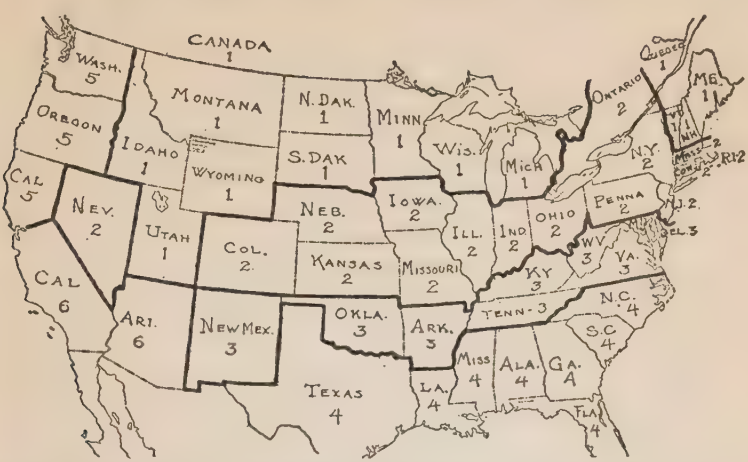
EDITOR'S NOTE.—Much the most extensive and detailed study of rose-preferences ever undertaken in America is that which our Secretary, Mr. Robert Pyle, here reports. It is extensive in its scope and size, and the masterly analysis of it which follows gives it greater value.

Particular attention is called to the separate report from the seventy largest gardens, including more than 66,000 roses. To some of us this inner referendum is more helpful, more conclusive.

IF ANYONE should question the enthusiasm, alert-mindedness, and loyalty of the members of the American Rose Society, ample and ready assurance could be found in the fact that 81 per cent of the 1925 members renewed their memberships for 1926. If that should fail to prove the point, I would need only to refer to the recent referendum on preferred roses. At the annual meeting of the Society, held in Philadelphia in September last, Leonard Barron, editor of the *Garden & Home Builder*, stated that 799 ballots, being a report from more than one in every seven members of the Society, was an extraordinarily large return. More than 16 per cent of the membership of the American Rose Society had responded to the question "Which are your favorite Roses?"

Because of the great variation in climate throughout the country, it was necessary to divide it into districts or zones. These zones were based upon those determined by the United States Department of Agriculture, somewhat modified by the conclusions of Capt. George C. Thomas, in his book, "Roses for All American Climates." In the outline map appended, each state, province, or portion of a state or province, is numbered. These numbers correspond to the figures at the heads of the columns in the tabulated summary.

In any arbitrary zoning such as this, it is inevitable that in each zone there will be localities or "pockets," with climatic conditions differing from those surrounding and generally obtaining elsewhere in the same section. For example, we realize that there are several somewhat distinct rose zones in Florida, as also in other states. But for all practical purposes the zones



have been found very satisfactory, and it is interesting to note that 8 per cent of the ballots received were from Zone 1, 61.8 per cent from Zone 2, 11.8 per cent from Zone 3, 10.7 per cent from Zone 4, 3.9 per cent from Zone 5, 3.8 per cent from Zone 6.

The combined total of all the roses reported owned and enjoyed by the 799 members who voted is 125,000, an average of 186 plants for each garden.

From the detailed tabular report which follows, and which gives sectional preferences as well, it is to be noted that the country-wide favored dozen everblooming roses include Radiance, Ophelia, Red Radiance, Duchess of Wellington, Los Angeles, Mme. Butterfly, Columbia, Gruss an Teplitz, Souvenir de Claudius Pernet, Mme. Edouard Herriot, Kaiserin Auguste Viktoria, and Mrs. Aaron Ward.

The six favored hardy Climbers included Dr. W. Van Fleet, Paul's Scarlet Climber, American Pillar, Silver Moon, Climbing American Beauty, and Mary Wallace.

Because of lack of space, the following roses were omitted from the tabular report: Alida Lovett which was twelfth in the list of climbers for District 3; White Baby Rambler, fourth in the list of Polyanthas for District 3; American Beauty, fifth in the list of Hybrid Perpetuals for District 4; and in the miscellaneous lists, Roseraie de l'Hay, fourth in District 6; Lord Penzance, fourth in District 5; Blanche Moreau, fifth in District 5; Xanthina, fifth in District 6; and Meg Merrilies, fourth in District 4.

	Votes	General Place	Place in Sections as Numbered					
			1	2	3	4	5	6
HYBRID TEAS, TEAS AND PERNETIANAS								
Radiance	727	1	2	1	1	1	..	13
Ophelia	640	2	6	3	3	5	8	8
Red Radiance	636	3	8	4	2	2	..	11
Duch. of Wellington	627	4	11	2	5	18	7	21
Los Angeles	601	5	1	5	8	6	4	1
Mme. Butterfly	575	6	9	6	6	11	15	6
Columbia	574	7	3	8	4	4	13	..
Gruss an Teplitz	515	8	4	7	9	19	..	..
Souv. de Cl. Pernet	488	9	10	9	13	8	9	10
Mme. Ed. Herriot	487	10	7	11	14	9	2	7
Kais. A. Viktoria	440	11	12	13	7	3	..	15
Mrs. A. Ward	411	12	5	12	11	..	18	24
Lady A. Stanley	389	13	17	10	16	..	..	..
Mme. C. Testout	350	14	14	14	17	17	17	18
Jonk. J. L. Mock	333	15	..	16	10	12	..	..
Gen. MacArthur	332	16	13	15	..	23	6	12
Lady Hillingdon	320	17	21	21	12	7	10	14
Killarney	288	18	..	19	15	13	..	..
Sunburst	277	19	..	..	18	10	12	..
Rev. F. Page-Roberts	263	20	22	18	..	..	..	16
Hoosier Beauty	259	21	16	..	..	20	5	4
Willowmere	251	22	24	17	22	..	..	..
Lady Ursula	248	23	..	20	19	..	19	..
Et. de France	245	24	15	..	..	15	..	..
Wm. F. Dreer	...	..	19	..	..	24	..	20
Lady Ashtown	...	..	20	24	23	..	..	..
Mrs. A. R. Waddell	...	..	23	..	..	..	..	..
Laurent Carle	...	..	..	22	21	..	..	..
Miss Lol. Armour	...	..	18	23	..	..	..	..
La France	...	..	..	..	20	21	..	..
Maman Cochet	...	..	..	..	24	14	..	..
Maman Cochet, White	...	..	..	..	..	22	..	..
Hadley	...	..	..	..	..	16	..	2
Golden Emblem	...	..	..	..	..	..	1	3
Independence Day	...	..	..	..	..	..	3	..
Constance	...	..	..	..	..	..	11	..
Imperial Potentate	...	..	..	..	..	..	14	..
Lady Pirrie	...	..	..	..	..	..	16	..
Rose Marie	...	..	..	..	..	..	20	5
Isobel	...	..	..	..	..	..	21	22
George C. Waud	...	..	..	..	..	..	22	..
Queen Alexandra	...	..	..	..	..	..	24	17
Mrs. Chas. Russell	...	..	..	..	..	..	..	19
Louise C. Breslau	...	..	..	..	..	..	..	23
Padre	...	..	..	..	..	..	23	9

	Votes	General Place	Place in Sections as Numbered					
			1	2	3	4	5	6
CLIMBERS								
Dr. Van Fleet	811	1	1	1	1	2	1	9
Paul's Scarlet Climber	729	2	2	2	2	1	2	1
American Pillar	552	3	4	4	3	3	4	..
Silver Moon	551	4	9	3	5	4	3	10
Cl. American Beauty	497	5	3	5	4	5	9	7
Mary Wallace	379	6	8	8	6	8	6	12
Dorothy Perkins	369	7	5	6	8	7	..	8
Tausendschön	369	8	6	7	9	6	8	4
Dr. Huey	257	9	10	9	10	..	11	..
Gardenia	245	10	..	10	7	10	..	..
Excelsa	241	11	7	11	..	..	10	..
Emily Gray	229	12	..	..	..	11	..	..
Bess Lovett	...	..	11	12	11	..	..	..
Hiawatha	...	..	12	..	..	12	..	..
Mme. C. Testout, Cl	...	..	..	..	..	9	7	2
Cl. Lady Hillingdon	...	..	..	..	..	..	5	6
Cl. General MacArthur	...	..	..	..	..	..	12	5
Gloire de Dijon	...	..	..	..	..	..	..	3
Cl. Lady Ashtown	...	..	..	..	..	..	..	11
POLYANTHAS								
Cecile Brunner	72	1	1	1	2	1	1	1
Lafayette	36	2	2	2	4	..	2	2
Orleans	32	3	3	3	1	3	..	..
Miss Ed. Cavell	30	4	4	4	..	..	3	3
Ideal	...	..	..	..	..	4	..	..
Clothilde Soupert	...	..	..	..	..	..	4	..
Baby Doll	...	..	..	..	..	2	..	..
HYBRID PERPETUALS								
Frau K. Druschki	212	1	1	1	1	1	2	1
Paul Neyron	109	2	2	4	2	2	..	..
Ulrich Brunner	103	3	5	..	3	..	1	2
Mrs. John Laing	103	4	..	2	5	..	3	4
Gen. Jacqueminot	101	5	3	3	..	3	..	..
Geo. Arends	95	6	4	5	4	..	..	3
J. B. Clark	...	..	..	..	..	4	5	5
Hugh Dickson	...	..	..	..	..	..	4	..
MISCELLANEOUS								
Hugonis	69	1	2	1	1	2	..	2
Conrad F. Meyer	61	2	3	2	2	1	..	1
F. J. Grootendorst	35	3	1	3	4	..	1	..
Harison's Yellow	18	4	..	4	..	..	..	..
Hermosa	12	5	..	5	..	..	..	..
Austrian Copper	...	..	4	..	5	..	2	3
Persian Yellow	...	..	..	..	3	..	..	..
Sir Thos. Lipton	...	..	5	..	..	3	..	..
Juliet	...	..	..	..	..	..	3	..

When some of us who serve the American Rose Society saw the result of this ballot, we had the impression that, possibly, if we should separate and collate the votes sent in by the more expert among the amateurs, a considerable variation might show. This was done by selecting seventy ballots from the largest gardens, representing all the United States, except the six states, New Mexico, North Dakota, Utah, Wyoming, Nevada, and Vermont. Some of these seventy voters had less than 200 roses, and some of them reported gardens containing from 3,000 to 7,000 roses. The average among the seventy was 948 roses per voter, with a total of 66,347 roses represented.

This result, compared with the original dozen of Hybrid Tea roses, pushed Duchess of Wellington down the list from No. 4 to No. 7, Souvenir de Claudius Pernet from No. 9 to No. 15, and brought General MacArthur up from No. 16 to No. 8, it being the only one to come in, and Souvenir de Claudius Pernet the only one to go out of the original twelve.

Thus the expert choice of the preferred dozen was Radiance, Ophelia, Red Radiance, Los Angeles, Mme. Butterfly, Columbia, Duchess of Wellington, General MacArthur, Gruss an Teplitz, Mme. Edouard Herriot, Kaiserin Auguste Viktoria, and Mrs. Aaron Ward.

The same test applied to the first six climbers produced only the change of Mary Wallace to the seventh place to make way for Dr. Huey brought up to the sixth place. The original choice otherwise held, the select six then reading: Dr. W. Van Fleet, Paul's Scarlet Climber, American Pillar, Silver Moon, Climbing American Beauty, and Dr. Huey.

The vote on the novelties was so light that it can have no weight as authority. It is therefore omitted.

The value of this referendum as indicating the actual experience of America's most thoughtful amateurs will prove a guide to hybridizers as well as to nurserymen. It is, without doubt, an accurate cross-section of present preferences,* and by this last test can be taken as a standard from which to judge the progress that may be anticipated in the next ten years.

*It cannot be denied that those of us who have been following recent introductions are more or less disappointed with the outcome of this referendum. Certainly there are several "has beens" in the list that could well be spared for newer and better varieties.—EDITOR

Royal Doings in Tacoma

By JAMES A. HAYS, Tacoma, Wash.

EDITOR'S NOTE.—Tacoma's successful autumn rose show and the adroit use of the opportunity to capture a Queen are alike typical of the enterprising Northwest.

ON NOVEMBER 1 and 2 we held in the Crystal Ballroom of Hotel Winthrop, our first *fall* rose show. It was arranged with only a week's notice, but the Committee had the fullest coöperation of the people of Tacoma. The show was a wonderful success, and the ribbon and cup-winners were worthy a place in any June show I ever saw.

The richness of Tacoma's fall gardens was indicated by the fact that 593 individual exhibits were made, and that the number of exhibitors was almost double that at any June show.*

On November 5 occurred another and most unique rose show. Frank Chervenka had originated two new roses, descendants of Mme. Butterfly and Lamia. Dr. Hiram Depuy suggested that these roses be named for Queen Marie of Roumania and the Princess Ileana, then touring the state of Washington.

Their train was scheduled to pass through Tacoma at 5.40 A.M. when all would be asleep, so a stop was arranged at Longview, the new lumber town on the Columbia River, bringing the special train into Tacoma at 11.40 A.M.

After the Mayor had presented Her Majesty with a bouquet of Mme. Butterfly and his wife had given her another of Ophelia, I proffered the basket of the new rose, Queen Marie, explaining the idea to her. Her Majesty replied:

"Having been all my life such a lover of roses, I have often wondered why one was not named after me; and now I accept this and thank you."

The Princess Ileana and the Queen assented willingly to the naming of the second rose for the Princess

The several minutes of conversation with the Queen* about roses showed her to be a keen gardener, and most affable.

Incidentally, the naming and presentation of the roses was one of the causes for upsetting the train's scheduled arrival in Seattle, with the result that Sam Hill, her Washington State host, lost his temper and a ride on her train going east.

*See Plate IX, facing page 57.

What About the New European Roses?

CORRESPONDENCE WITH THE EDITOR

UNTIL the spirit of rose-adventure dies down, which will probably be the day after the last rose-leaf has crisped in the eventual world conflagration, all rose-lovers will be interested in the new things. Rose-loving is always both present and prospective. We enjoy a beautiful rose today, but we hope the new variety we read about will give us a more beautiful rose tomorrow.

For many years, faithful correspondents abroad have kept us advised of rose conditions by their candid reviews. This year there is one uniform note of criticism, and even of disgust, at the lack of wisdom of the introducers who seem to have lost much of their sense of values, and keep sending out varieties differing only slightly from previously issued sorts.

GERMANY

The president of Der Verein Deutscher Rosenfreunde, the German national rose organization, is Herr Wilhelm J. H. Kordes. His straightforward comments are warranted by the intimate knowledge obtained in his own large operations. His letter follows:

SPARRIESHOOP, *November 20, 1926*

Dear Mr. McFarland: I enclose herewith a report of the new roses as tried by us this summer. Hardly one per cent of the novelties sent out nowadays are really any progress on existing sorts, and a lot of mediocrities that swell the lists of the novelty dealers had better remained unborn. What I said last year is yet true, that most of our raisers have not kept up with modern standards in roses, and are sending out things that would hardly have been called improvements fifteen to twenty years ago. It is certainly a wrong idea that, because they have done so for years, the hybridizers must now keep on sending out some half-dozen so-called novelties per year. If but one good sort would be selected, I reckon the name of the raiser would gain more.

There is another point. We have several test-gardens in different countries, but even these are not able to stop the flood of mediocre varieties, as no power is given these stations to hold up anything that is clearly rubbish, or is no advance on sorts already available. Also, these gardens only publish the results of the winners, or near-winners, but do not speak openly of the other sorts under trial. This ought to be altered, if the reports of these gardens are to be useful to the mass of rose-lovers and novelty-buyers.

And now for the new roses. First, the summer was an awful, nasty, wet time. Either it was cool and cloudy, or it rained. There was summer weather with

hot sunshine only a few days in between. The spring months of May and June, when the roses are to build up a strong undergrowth, were abnormally cool and cloudy. Only after Whitsuntide had we about a week of real rose weather, followed by heavy, incessant rains for weeks. Our fields have been partly flooded and in consequence the foliage diseases started very early. The first mildew could, by chance of a hot sunny day, be overcome, but black-spot started badly, and the roses in the affected areas stopped growing. Especially the Pernetianas were in distress, and a lot of them died outright. The novelties escaped this scourge but, of course, would also have done better had the year been a little more favorable.

Among the reds, the best is undoubtedly John Russell, a Hybrid Tea with the character of Captain Hayward. The bloom is very large and has a hardly surpassable brilliant dark scarlet color, without purple—very seldom has it darker shadings. The rose ought to be very hardy and, as it is free from foliage disease, should be valuable.

Arthur Cook is second, as a deep velvety scarlet, with nearly black shades. A proper Hybrid Tea, it is not too strong a grower, but carries its very bold flowers on strong, upright stalks. The foliage is light green. Its bloom is very full and of good form. It did not burn in the sun here.

Royal Red is a rose that may be loved by some on account of its enormous blooms, but in cloudy weather the color is dull and the too-large bloom is likely to ball and blue. It is fine in a coldhouse where the blooms are protected from rain. The plant will not be liked by everybody, and it is, in short, a beauty only for very restricted uses.

Saltaire is of Richmond type. With very dark blooms outside, it shows up well when forced. Indoors it is good, but whether it will be better outside in a warm summer is still to be seen.

Mme. Henri Lustre, a bold flower, is useless because the blooms hang on a weak stalk. Hawlmark Scarlet is not much better, is but half full, and badly infested with mildew. It hangs also. Holt Hewitt produces a lot of malformed blooms, and is too poor a grower to make good. Its color generally lacks luster.

Scarlet Bedder is very free and grows well, but I should want to withhold my judgment on it until next fall.

Leader and Red Premier do not show any difference here. They are not garden roses, but their color is wanted among forced roses. They do not seem to be so large as Premier.

Dr. A. J. Petyt is a few years old, but has a strong growth and brings blooms much the way of Gloire de Hollande. If it proves to be free from mildew it will be a nice garden rose. It is a strong, free bloomer. William Bowyer disappointed; it is in no way superior to Miss C. E. Van Rossem and not so free in flower.

Templar hardly brought one good bloom outside this summer. Sensation sometimes was glorious, but I fear will never make a garden rose here on account of its mildew. Rose Hera did not appeal to me. It brings too many crippled blooms. In spite of its wonderful scent, nobody liked it.

Henry Nevard, another of the Captain Hayward type, has too somber a color. The blooms sometimes come of an enormous size, but it did not make any friends here.

George H. Mackereth is too dark and lacks luster. Also, the blooms are badly supported on weak stems. Fred J. Harrison has more admirers. The middle-sized blooms are of good form and texture, carried fairly well upright, and come in profusion. It is a rose of the General MacArthur type, but with a good crimson color. It ought to make a fine bedder.

Fragrance is in a class by itself. Its type is Hugh Dickson, but it seems to bloom more freely. The color is clear crimson, without shades, not quite so bright as Hugh Dickson, but the bloom is carried well up on a strong stalk. The scent is very strong. Also, the foliage seems to be free from fungous pests. It is, of course, a rampant grower and must not be planted in company with dwarfer Hybrid Teas.

The result in the pink shades is not much better. The best is Pink Pearl, a salmon-shaded pink, with medium-sized flowers on long, strong stems. It is a good grower healthy, and very strongly scented. It must be a good rose for the gardens.

Next best is Imperial Potentate. This rose proved very good in spite of the abnormal weather conditions. It is pure dark self-pink, and hardly changes until the petals drop. It is a strong-growing, healthy plant, so I reckon it ought to make headway as a garden rose.

Lady Florence Stronge is also a good novelty. It has much of the color of Gorgeous, combined with the beautiful shape of the Ophelia race. Indoors it is an extraordinarily strong grower.

John Henry is a pure, deep carmine-pink, but the bloom is rather thin. It will not be liked in a hot period; besides, it was susceptible to mildew. It is a very strong, upright grower. A fuller rose is Empire Queen, but it did not grow very strong here. To my mind it does not surpass Una Wallace, which it was claimed to do.

Victor Waddilove did not like the wet weather. The foliage showed black-spot, and only a few good blooms resulted. Whether it will prove a valuable addition, I cannot say.

Salmon Spray grows too tall to be a good rose; if it kept dwarf, like Rödhätte, it would be much better. There is room for a rose in a good salmon color with the plant type of Rödhätte. Mrs. Tom Smith is a weeping rose, varieties with such poor-looking plants have been forgotten by the hundreds before now! I fail to see the good in roses with such habits.

Mrs. R. B. Molony is sometimes very nice, but I think we are getting too many of these sorts. The color is sometimes a glowing carmine-red, but is changeable, many blooms being a dull pink. Mazzini is an example of how a new rose ought not to be—a dull, washed-out, whitish pink, in a flower that seldom opens well. Such roses were sent out twenty years ago and are not remembered now. Lord Fairfax is another example of such foolishness. Many different visitors failed to see what was the new point in this novelty. Lady Sydney Eardley-Willmot is too thin, is subject to mildew, and the color is seldom good.

Josephine Thomas did not show up here; the color was too faded and the blooms too small. The strong, healthy plant is no substitute for these; we want good blooms on the plants.

Gwyneth Jones would be a fine rose if the blooms were produced on a Mme. Caroline Testout plant. I fear the plant will not be hardy, and too many of the blooms are on weak stalks. The color is, undoubtedly, about the most brilliant we have in the coppery tones. Mme. Emilie Van der Goes is another of those that ought not to have seen the light of this troubled world; it is too thin, and the color is a common pink. Blossom has a nice description, but I fail to see where its merits lie. Light, whitish pink in a thin flower; we have so many better sorts. Autocrat might have done well but for the bad season. It black-spotted badly. The bloom is large and well-built; it is unfortunate that it is so poor a plant.

Anne brings very large blooms, of a deep cherry-pink. The plant is dwarf,

but healthy, and the blooms are carried well. Perhaps it will prove good for dwarf beds. Superbe would be a superb rose if only it would open a little more quickly; it balls in cool, wet weather. It is a strong grower and a healthy plant. The flower is very large, and reminds of La France but for the missing scent. Silver Columbia did not show better qualities outside than the common Columbia. Princess Marie José is a sport of Mme. Edouard Herriot, or better no sport at all, as I failed to detect any difference.

Marie Faist has a nice salmon-pink color, but the bloom is too small and the plant is rather common-looking.

Maria Reid is supposed to be a great improvement on Mme. Caroline Testout. Now Testout has a bold flower, though sometimes the color is bad. This rose is a small thing, with a little better color. I fail to see the great novelty in it.

John C. M. Mensing is a very full and good-colored salmon-pink Ophelia sport. It has all the good qualities of the parent and is, especially in wet weather, sometimes wonderful. Indoors the color is a clear self pink. It is a Dutch rose.

Joan Howarth is a poor grower, and Annie Laurie and Butterfly are much better. Edwin Markham did not like the wet weather and only showed poor, small blooms; the color also is too dead to find admirers.

Clovelly is more to my liking, though the shoots are rather feeble, and sometimes the fine bold self-pink flowers are hanging about badly. It brings such beautiful blooms on the stronger shoots that this small fault is forgiven, and it is a very strong grower, with a healthy plant. The form of the bloom reminds of America, but the color is outside as glowing and pure as America only is indoors.

Belle Cuivrée is of the Mme. Edouard Herriot race, but obviously not an improvement on that good garden rose. Too much hanging about; no bloom is carried upright. It ought not to have been put in commerce.

With Angéle Pernet we come to the point where the reddish and yellow colors collide. In cool weather it can be of marvelous color, but for hot seasons it is a little thin, and will bleach. I did not notice black-spot on the plants, and it would be a valuable addition to our sorts if this should prove right. It is a good grower, and covered well by luxuriant, glossy leaves; grows a little sideways.

The best of the yellows was Roselandia, which is truly a great improvement on Golden Ophelia, and it is hard to believe that it is but a sport from this sort. The blooms are bold and well carried on strong stalks. Also the plants grow well, and the foliage is disease-resistant. I reckon it is to be one of the best pure yellow roses.

Next comes Ville de Paris, a rampant grower, with bold blooms on very long, strong shoots. The foliage is very large, and glossy dark green. Perhaps it will not last in very hot weather, but it is a good-keeping color. A pure sun-yellow rose, without the faults of Souvenir de Caludius Pernet.

Pius XI is a sulphur-yellow rose that will be pure white when open. It is a rose of the Ophelia race, but with very large, full blooms that recall Columbia. Very likely a valuable addition. Mary Pickford I only had indoors, where I liked its medium-sized golden yellow blooms. The type of plant is clearly Souvenir de Claudius Pernet.

Lord Lambourne bloomed very freely, but was rather thin. The bold flower is carried well, but the fine reddish markings are not always developed on the petals. It may be a good garden rose, if it keeps free from black-spot.

Ivy May has disappointed me. The bloom is too small, and the fine color

does not stand the sun. Besides it is badly subject to mildew. H. C. Valeton ought to be a good rose if it really combines the glorious bloom of Aspirant Marcel Rouyer with a strong growth. Gold Mine did not show up well, but in a warmer summer it may do better. Fritz Maydt is a light orange, but does not keep the color long. The plant is of the Golden Ophelia type.

If one might see a Duchess of York bloom on a Mme. Caroline Testout plant, it would be, in spite of its fancy form, a grand garden rose. It is now only good on standards though, perhaps, the most glowing combination of sun-yellow and scarlet, with orange shades. It has all faults of the Mme. Edouard Herriot race, and some besides.

Barbara Robinson is sulphur-yellow in bud, later paper-white. Very prolific, blooms in small clusters. Angel Guimera is sulphur-yellow, a very strong grower, and in type of plant like Souvenir de Claudius Pernet. The blooms are very full but open well. Violet Parncutt is a rose for lovers of the singles. Its color is a glowing coppery-red orange. The plant grows strong. Fine for decoration.

Shot Silk sometimes brings wonderful blooms of a solid cherry-pink, with golden shadings. The plant grows only moderately. Blooms are carried well up. A fine garden rose. Rising Sun would be better called Sunset, as the blooms will be lying on the ground as soon as they try to open their petals. It is useless to send out such roses.

Reims is too pale to make much impression here, the bloom is large but bleaches to white as it expands. Besides, I missed the free production of blooms that makes other sorts in the color better.

Mrs. Calvin Coolidge is useless outside; the blooms burn in the sun and are crippled in wet weather. Indoors it is small, but a nice golden yellow Ophelia.

Mme. Emile Mayer did appeal to me as a big and substantial Rayon d'Or yellow rose. The plant grows well and the blooms are carried on strong, erect stalks. Perhaps it will be a good garden rose. June Boyd has a strong plant, but the color does not keep well; the pretty apricot-yellow soon fades.

In white we have only White Ensign. It has a good color and is a rose of great keeping qualities. The growth is compact, and it blooms freely. Blooms are of medium size and very full. It opens well in spite of bad weather.

These are my observations. In places I may have used some rather hard words, about some worthless things, but it is a hard game to buy every year some $1,000 worth of novelties and find later on that all is as before—that most of the descriptions of the novelties are in the imagination of the raiser. I have used severe words in the hope to be able to report next year in a different style.

Yours truly,

WILHELM J. H. KORDES.

ITALY

The Countess Giulio Senni, whose important rose-garden at Grottaferrata, near Rome, has repeatedly been mentioned and once described in the Annual, and whose letters have been welcomed for years, was away from her garden much of 1926, and her correspondence, therefore, has a less critical quality than usual. Extracts follow to show this keen rosarian's view as she had opportunity to express it:

July 22, 1926

The day before your letter reached me I had put a Souvenir de Claudius

Denoyel in a most treasured place by the front door here, and hope it does well. Something I read about it last year made me want to try it.

The Countess has another garden in Provincia di Arezzo, in which she had an experience which was both distressing and important:

When we came up on July 1, I found my gardener had made a serious mistake, having done this year's planting all wrong, and as well undone all my work of last October. After consideration I decided to risk everything, and began moving all the roses, trusting to the hard clay soil to help. Some came out of the ground with no ball of earth at all, and the delicate new roots exposed. Then strange things happened. A plant of Angéle Pernet, with half-opened flowers, continued to open them as slowly and deliberately as if it had not been touched, and whereas I had started as a matter of course to take off the buds (for they always droop and wither), I stopped when I saw Betty Uprichard and others proceed to open as normally as usual. Then the heavens opened and it began to rain for a week, so that now all the hundred or more plants so violently moved in July show no sign of disturbance. That was real luck, but I think one can take risks with clay soil one could not with a lighter soil and drying winds.

Elvira Aramayo is a wonderful color, such a striking "Indian red." I tried Augustus Hartmann near it, but the latter is a shade more crimson. Padre and Mme. Edouard Herriot will always be the high-water marks for a splash of color, and they are so very free-flowering. Beauté de Lyon is as fine but it flowers only once. Do you know Effective, a climbing red rose? I have had it a long time, but have been so impressed by it lately that I am going to get more, both here and in Rome. It is semi-double, fragrant, and clean, bright red.

I am fascinated by President Cherioux, Souvenir de Mme. Krenger and Souvenir de George Beckwith; they are as warm as or warmer than Lyon Rose and go so well near William F. Dreer and Golden Emblem.

I see with regret that Mrs. S. K. Rindge is considered hopeless. It has always done very well with me; fine flowers and fine glossy foliage. Independence Day is a beautiful yellow with no touch of lemon, and Sunstar is very, very fine, especially in the cool weather or in the shade.

The experience above given as to moving roses in full growth in midsummer is distinctly interesting and important.

ENGLAND

Three correspondents in England send us impressions not altogether related to the roses of last year, but taking into account varieties which are yet very much in the uncertain class. Mr. R. H. A. Lines, Wylde Green, Birmingham, writes thus:

Lady Inchiquin pleases me immensely. The color is quite new, the flower full and of fair size. I noticed in the only show I attended, our Birmingham show, that the nurserymen made quite a feature of it. I have not seen any mildew on it.

Mabel Morse has a very similar color to Mrs. Wemyss Quinn, but with larger petals. It has not made much growth, and mildewed slightly.

Florence L. Izzard has done much better than Mabel Morse, and made good growth. The flowers are very fine and the foliage a beautiful dark green. Admiration has very poorly shaped flowers, and the color is washy. The foliage mildewed badly. It is going to be scrapped.

Elvira Aramayo is a most charming color, different from Lady Inchiquin and all others, but the petals are very thin and there are not enough of them. Gwyneth Jones is very nearly the color of Elvira Aramayo. It made good growth and has beautiful dark green foliage which was mildewed slightly, although the raiser gives it as being mildew-proof.

White Ensign is not a pure white, and I cannot see anything remarkable in it, our old friend Clarice Goodacre being much better. Mildewed slightly.

Mrs. C. W. Edwards has very good foliage—shiny, dark green leaves with no mildew—but the flowers were very ordinary. The raiser gives it as pure crimson-carmine with yellow base. There was no yellow base on mine, though I had it from the raiser. Mrs. James Heath I've had for two seasons and have not had a good bloom yet.

Shot Silk is a very nice color—cherry-cerise—and has bloomed well, though the petals are very thin and few. The foliage is a shiny green with no mildew.

From England also comes the following acute criticism of the new roses by Mr. J. G. Glassford, a member of the Council of the National Rose Society.

ABBOTTSFORD, WEST DIDSBURY, *October 9, 1926*

Dear Mr. McFarland: I have been to most of the great shows and have spoken to many good, experienced men in the rose world, and I will give you a short list of the roses seen and mentioned. Of most of them you will have heard.

Mrs. A. R. Barraclough is good and well spoken of. Dame Edith Helen is a fine rose, although there is a doubt in some people's minds about its doing qualities. Dainty Bess is good, and both Kirsten Poulsen and Else Poulsen are said to be fine. Dr. E. Deacon, a new rose of Henry Morse & Sons, of Norwich, is good, but I have not yet grown it.

Frank Neave, a good yellow, will be in commerce in 1928. Honeymoon is said to be good, as also is Charles P. Kilham, and Doris Traylor might be worth a trial. A friend told me to look out for a rose called Comtesse de Castilleja, raised by, or anyway growing with, Mons. Chambard, in France. Oliver Mee will be a good rose under glass, I think, but I doubt if it stands the winter well.

I don't care for the Duchess of York. Angéle Pernet improves on acquaintance. Dr. A. I. Petyt is a good red, but is short of scent. Lord Charlemont improves the second year, I find.

I have some new stocks to try, one of which is termed a "thornless Rugosa." That is not quite a true description, but it is a great improvement in that direction.

Sincerely,

J. G. GLASSFORD.

Mr. E. Percy Smith, proprietor of an enterprising nursery at Boston, England, strongly expresses his dissatisfaction with the new introductions. Those who have read the remarkably frank and well-written catalogue which Mr. Smith sends out will appreciate this further word from him.

August 19, 1926

Dear Mr. McFarland: I entirely agree with you with regard to new roses, most of which are not worth listing, but it has to be done from a business point of view. The past two seasons have not been of the most encouraging for the buyers of these "wonderless gems." I think there must be something radically wrong; either the raisers have lost the idea of what a new rose should be, or they have not got the quality they desire to give us. Why they do not give us one good thing and leave alone the "duds," I fail to understand, unless it is for the reason that each tries by words of flattery to create a sensation regarding the roses they introduce, and then leave us to pass judgment after taking toll of our purse. Good new roses are like great men, few in number. The following few I consider well worth retaining:

Angèle Pernet is one of the finest Pernet-Ducher has ever given us. It has never been shown well because the color is awkward to bring out when staged unless tact accompanies its arrangement.

Gwyneth Jones is a remarkable color, but untidy.

John Russell is a rose worth growing for its form and color, but not so free as we should like and quite scentless.

June Boyd, a lovely piece of color, is a fine bedder.

Marcia Stanhope is the finest white rose since the advent of Mrs. Herbert Stevens, but is not so free-flowering. This rose is worth growing for its scent and form alone.

Mary Wallace, a greatly improved Dr. W. Van Fleet, is one of the new Ramblers that will find a place in most gardens.

Shot Silk, now getting well known as a rose of the highest class, is such as will retain a place for many years to come.

Billy Boy. I think, will make good as a single or semi-double yellow rose for massing.

Yours faithfully,
E. Percy Smith.

HOLLAND

Mr. R. Buisman, who is local secretary of the American Rose Society in Heerde, Holland, sends us some interesting notes on the new roses as he sees them. These follow:

Heerde, *December 28, 1926*

Regarding the new Dutch roses, let me first mention Etoile de Hollande. This famous red rose will, with your American General MacArthur, be considered the best red garden roses, and there is a great demand for it, especially from the United Kingdom.

Gooiland Beauty is a very strong grower, with a golden orange color. The flower is nice, but semi-double. This rose is so near to Rose Hera, sent out by the same grower (van Rossem), that there is no need for both.

The Polyantha, Orange Queen, a sport of Orléans, is a fine color, but has many different faults and gives so many flowers that revert to Orléans that it will not last long.

Pink Pearl has flowers about the same color as Columbia, but more of a violet tone. The plant is a strong, upright grower, and will make a first-class garden rose. The German rose, Wilhelm Kordes, I think will be displaced by Mevrouw G. A. van Rossem, which is this year in commerce. I can recommend it as worth while.

At the Netherlands Rose Show, this year, the thirty-fifth of its existence, there were shown many new varieties. A gold medal was awarded to Orange Perfection, a new color in the Polyantha class. It is also a sport of Orléans, but

is of vivid orange. Golden Salmon was shown. It is also both a Polyantha and an Orléans sport, and is about the same color as Orange Perfection, though it received a gold medal.

Locarno received a silver gilt medal. It is a good, bright red, suffused with pink. The plant is a strong grower.

A silver medal went to Mlle. B. van Rossem, which is about the same yellow as Florence L. Izzard, but a better grower.

You may be interested in notes on some of the new English roses as they appear to us here in Holland. Marcia Stanhope was one of the best. It seems to be a fragrant Druschki, though not so large, and is a true Hybrid Tea.

Gwyneth Jones is a brilliant orange-carmine color, but the blooms are only semi-double. Doris Traylor has too much Pernetiana blood, so that while the flowers have a good yellow color, some shoots did not do well in the summer. Holt Hewitt is a dark red rose without merit, losing its color. Lord Lambourne is a large Sunstar flower, but I cannot see a place for it. Arthur Cook has, at most, bad small flowers and had better never have seen the sunshine.

Clovelly, I found to be a good carmine-rose, and I think will prove a good variety for all purposes. Henry Nevard has blooms of scarlet-crimson. It flowered badly here, and I think there is no demand for such flowers. John Russell is a fine velvety red flower of good size, but without fragrance, and often giving no flowers at all on some shoots. Mrs. J. Heath, a crimson rose with red-orange shadings, was in this first summer leafless, and so did not do much.

Roselandia is said to be an improved Golden Ophelia, but I cannot see it. Shot Silk is a rose of fine color—cherry-pink with salmon-orange shadings. Mrs. Tresham Gilbey is a superb variety, of coral-rose shaded with salmon. The plant is a strong grower and ought to make a good garden rose.

Chastity forms a magnificent white pillar rose, but its great fault is a disposition toward mildew. Allan Chandler has blooms of vivid scarlet, of the same size as K. of K. It is very free-flowering the whole season, and I can highly commend this as a pillar rose.

Rosemary has a flower of deep, rich carmine with old-gold shadings. It is a charming climber.

Among the French roses, Angéle Pernet will always find her way. Ville de Paris is another rose from the same grower which gives a fine sunflower-yellow color, carried on long stems. It is free-flowering and has mildew-proof foliage.

Of the two Danish roses, Else and Kirsten Poulsen, both Polyanthas, I think the former will be more in demand.

Among the new American roses, I find Lord Fairfax to have a small cherry-red flower, a color which has no charm. Royal Red gave us a few good red flowers, but the bad ones are so numerous that the variety had better never have seen the Old World, just as Sensation and Templar both lose color and give us small flowers over here. The rose, Hill's America, grows here very, very badly.

It is very disappointing that most of the new roses are so poor. There are too many new kinds put on the market. I have not mentioned all the new kinds on trial. I want to enter a protest against the rose judges who give medals and certificates to so many roses that are null and void.

.These candid observations from Europe may well be read in connection with those in "The Proof of the Pudding."

FRANCE

Through the kindness of Mr. J. H. Nicolas, well known to readers of the Annual, we present impartial and important

notes on roses at the great Bagatelle Gardens in Paris, contained in a letter from Mons. J. Dupeyrat, President of the Rose Section of La Société Nationale d'Horticulture de France.

PARIS, *December 3, 1926*

Dear Mr. Nicolas: The rose contest of Bagatelle this summer was prevented by the abonormal weather. On June 16, the announced date of the meeting, the weather was clear, but for many weeks previous the cold and rain had checked vegetation so that very few roses were in bloom. After a short discussion with the assembled jurors and officials, it was decided to postpone the making of awards until next year. It will, therefore, be combined with the 1927 judging, making an occasion without precedent in the history of Bagatelle.

This question being settled, we inspected the roses that were in bloom.

In the French section of 1925–26, we particularly admired the Pernetiana from M. Chambard, a seedling from Mme. Edouard Herriot × Juliet × unnamed seedling, which had just been named Comtesse de Castilleja. It is very vigorous, with foliage glossy green and resistant. The flower is large, full, cup-formed, and of a beautiful color—shaded fawn, vermilion, and copper.

Mme. Chas. Seppe, a Hybrid Tea seedling of Edward Powell × George Dickson, offered by M. Sauvageot, was also noted. It is deep red, and very vigorous, with heavy foliage.

Among the foreign roses, very numerous this year, only a few were in bloom, the only two following varieties seemed worthy of consideration:

Lily Jung, a Pernetiana from M. Leenders & Co., an issue from unnamed varieties, has a very vigorous plant, pointed bud, and large, full flower of a beautiful golden yellow. It was honored, I believe, with a gold medal in Holland.

Kardinal Piffl, Pernetiana, from Gebr. Leenders, is a seedling of Mme. Edouard Herriot × Rayon d'Or × Mme. Charles Lutaud. It has great vigor and good foliage, with full, large, flower of beautiful orange-yellow having reverse of a more vivid yellow, making an interesting variety.

We also examined Heart of Gold, presented by the American Rose Society. I regret to have to say that the jury experienced a deep disappointment in this rose, but, perhaps, it is a matter of climate, and ours did not suit this variety.

The novelties entered for the 1926–27 contest were still less advanced than those of the preceding year. In the French section there were only two that were in condition for judging, and also two in the foreign section, besides two climbers:

Souvenir d'Alexandre Bernaix, a Hybrid Tea from P. Bernaix, seedling from Etoile de Hollande × Gen. MacArthur, is a beautiful, vigorous shrub with bronze-green foliage, bearing large, globular flowers of intense and velvety crimson.

Surville, entered without parentage indication, by M. Croibier, has foliage that does not seem very resistant, but the ovoid bud is pretty and the clear pink floweri s full and of good form.

Dr. J. G. Fraser, a Pernetiana from Walter Easlea & Sons, is a seedling from St. Helena × Muriel Dickson, and reminds one of the exquisite coloring of the latter, which has been so admired since its appearance but which, unfortunately, is hard to grow, in France at least.

Prince Henry, another Pernetiana from the same firm, is the result of crossing St. Helena and an unnamed seedling. It varies from pink-madder to pink-vermilion.

Finally, we have two beautiful climbers. One, Mme. Gregoire Staechelin, is a hybrid of Frau Karl Druschki × Chateau de Clos Vougeot, raised by Pedro

Dot, the Spanish hybridizer. It is a magnificent acquisition, most beautiful, with ample foliage which seemed, possibly, sensitive to mildew, a sad inheritance, perhaps, from Frau Karl Druschki. The bud and half-opened flower are perfect in form and color; the pink suffusion, shading from the base of the petals up is exquisite. The bloom is not recurrent, but is of long duration and lasted at Bagatelle from the end of April to the early days of June.

The other one is a Hybrid Tea from M. Barbier, a seedling of Mme. Berard × Constance, now named Eugene Transon, and very remontant from May to autumn. The foliage seems strong. Its coppery red bloom had petals of orange-yellow outside, with the center nankeen-yellow.

This short survey certainly is far from containing everything of interest among some two hundred entries, and it is even possible that it does not contain the names of some varieties with a fair chance of triumphing at the final judgment. I therefore must point to those I have more especially noticed in the course of my promenades at Bagatelle during the summer.

Mari Dot, a Pernetiana, from Pedro Dot, is a hybrid of O'Junyent × J. C. N. Forestier. The plant is strong and vigorous, adorned with good foliage, and the flowers are of good size, reminiscent of Mme. Edouard Herriot, but much more lasting. The blooms are very abundant in quantity and of long duration. It is most assuredly a very remarkable novelty for the ensemble of its qualities.

Shot Silk, of M. Alex. Dickson & Sons, entered without any parentage, is also a very beautiful rose which well deserves its name for its coloring and its entrancing appearance in the bud or when half open. It fades too quickly and discolors at the end.

Royal Red, of the E. G. Hill Co., entered without any parentage, does not seem to be suited very well at Bagatelle. At the beginning of the season, especially, it had a tendency to ball and when it did open its petals were margined with a whitish tint, little pleasing. Later on, its flowers were very large and full, of the most beautiful red, with darker shadings and heavy perfume, held on a strong pedicel. It must be of great value in hot climates and this is rather rare for that color.

Villa Pia, a Hybrid Tea of Gebr. Leenders, a seedling of President Vignet × Chateau de Clos Vougeot, is dark velvety red. Unfortunately, it has a double fault, rather paradoxical: in cool weather it balls, and it scorches in the sun! It seemed to me, also, that the foliage is not very healthy. I therefore prefer its two comrades, Kardinal Piffl and Grete Bermbach, a Hybrid Tea from Mrs. Aaron Ward × Pharisaer, with beautiful flowers of silvery white with flesh-pink reflexes, carried on a long, strong stem, and with very healthy foliage.

Reverie, a Hybrid Tea, raised by Ketten Bros., issued from Mme. Melanie Soupert × J. C. N. Forestier, is distinguished by its foliage of holly green and by its curious tints of apricot and shrimp-red suffusion on salmon-red, with Indian-yellow base, with outside petals veined Neyron-pink. It is considered one of the raiser's best productions.

In the French section, Comtesse de Castilleja will have a redoubtable rival in the Hybrid Tea entered first under the number 88 × 22, and since then dedicated to M. Julien Potin, one of our great orchid amateurs and rose-lovers. This new rose is raised by M. Pernet-Ducher, who hides its parentage under the threadbare formula, "issued from unnamed varieties." However, it is a real beauty with pointed buds on erect stems, and flowers of a magnificent yellow, warmer than either Souvenir de Claudius Pernet or Ville de Paris, from which it is very different in form.

Mme. Paul Ollivary, a Hybrid Tea, from A. Schwartz, issue of Mme.

Melanie Soupert × Emma Wright, is characterized by good foliage and large, full flower of coppery salmon with cadmium-yellow on the reverse of the petals; opens well.

Alice Stern, of M. Francis Gillot, is a beautiful Hybrid Tea, a seedling of Grange Colombe × Sunburst. It is a vigorous grower with double, full, cream-white flower.

In the varieties of 1926–27 is a Hybrid Tea of the house of Schwartz—Simone de Nanteuil, a seedling of Ophelia × Mme. Vittoria Gagniere, which seems to deserve close inspection. The fragrant blooms are produced in great abundance and are large, full, and open well. Its heavy petals are pinkish white on the inside, the center is tinted carmine-pink, and the exterior is flesh-pink.

Lillian Gomez Mena, a Hybrid Tea of M. Chambard, issued from an unnamed seedling, produces many flowers of salmon-cream, with exterior of the petals carmine.

Among the foreign roses of 1926–27 which were not in bloom at the time of the jury meeting, the offerings of M. Dot deserve special mention because they are very uniform in high quality. In addition to the climber I have described, there are three Pernetianas, one not yet named. It is No. 636, and issued from Frau Karl Druschki × Mme. Edouard Herriot × Souvenir de Claudius Pernet; the second, Director Rubio, issued from O'Junyent × J. C. N. Forestier, has a very vigorous plant and large blooms of a very beautiful red. Then the third one, Li Bures, issued from Chateau de Clos Vougeot × Souvenir de Claudius Pernet, has beautiful flowers of a happy color combination of red and yellow.

Saltaire, a Hybrid Tea from Alex. Dickson & Sons has given good full dark crimson flowers, carried singly on a moderately strong stem.

I would very much like to be able to express an opinion on Sarah Van Fleet and Dr. E. M. Mills, presented by the American Rose Society, but these plants did not arrive at Bagatelle until the end of April, and were just barely recovering. They will show themselves next year. All we can say now is that both seem to have excellent and healthy foliage. Sarah Van Fleet began to bloom in August and kept on till October.

I must finally remark that the jury was very much interested in the showing of five Australian roses—Gwen Nash, Queen of Hearts, Black Boy, Cracker, and Ruby Ring—all raised by a distinguished amateur, Mr. Alister Clark, and sent to Paris, on his orders by Messrs. Jefferies & Son of Cirencester, England, to be studied and observed. The qualification, "hybrid of Gigantea," applied to each one of these roses, seemed to confuse the jurors, and many among these expressed regret at not having more precise indications as to their parentage. We hope that between now and next June some further information will come from Australia.

This year, like every preceding year, we noted that the hybridists of all countries who presented at Bagatelle continue operating in the narrow circle of Hybrid Teas and Pernetianas. Is there not somewhere some one to offer a tempting prize for the production of a new Tea, for example, or a remontant Moss of a novel color?

Yours truly,

J. Dupeyrat.

Australia, China, and Spain are represented by separate articles in this issue.

Two New Van Fleet Hybrids

BREEZE HILL AND GLENN DALE

FOLLOWING the arrangement with the Bureau of Plant Industry of the United States Department of Agriculture under which the roses originated by the late Dr. W. Van Fleet are made available to commerce, the American Rose Society is sending out to nurserymen who comply with the terms imposed by the Department, two new roses.

The first, Breeze Hill, named by the Department of Agriculture in compliment to the Editor's garden at Harrisburg, Pa., in which it has grown to great beauty, and from which the color plate (see Frontispiece) in this Annual and previous illustrations were made. Its full history will be found in the 1926 Handbook. Probably the largest-flowered hardy climber in existence, it is characterized by its lovely "sunrise and sunset" tints, and the enormous flower clusters produced on its heavy wood. It resulted from a cross of *Rosa Wichuraiana* by Beauté de Lyon. The plants start rather slowly, but grow very rapidly when established.

The second, Glenn Dale, named for the village near the Bell Experiment Station where Dr. Van Fleet worked, is also a hardy climbing rose. It was shown as "V. F. 3" on Plate VII of the 1926 Annual. The official description, provided by the Department, is as follows:

Glenn Dale. A perfectly hardy and vigorous, but not rampant climber, with heavy, dark green, Hybrid-Tea-like foliage, which does not spot or mildew. The lemon-colored buds are long, beautiful, and uniform in shape, like a Hybrid Tea. They are borne singly or in clusters of up to twenty flowers on one lateral, which can be separately cut.

The flowers, which are slightly fragrant, open to white, and are produced in one crop. As this rose is a true climber, without tendency to form a bush, it can be so treated to advantage; when trained on a pillar the heavy laterals droop and the buds give the pillar an appearance like a shower of stars.

This variety is commended as different from any other climbing rose, particularly in its exquisite buds, and while it gives, while open, the general appearance of Silver Moon, it is not so unmanageable in its growth.

The parentage of this rose is somewhat in doubt, although it is believed to be a hybrid between Rosa Wichuraiana and the Tea Rose, Isabella Sprunt.

The stock of both these roses furnished by the Department of Agriculture is being distributed for propagation this spring upon the same terms as the other Van Fleet hybrids.

New Roses of the World

AN EDITORIAL SURVEY

The ninth annual survey of the world's new roses reveals the fact that, starting in 1919 with 61 varieties, the annual output has steadily grown until it has reached 165, with a total of 1,191 for the nine years.

INDEX OF NEW ROSES MENTIONED IN THE 1927 ANNUAL

Agnes Roggen, 224.
Alice Stern, 222.
Amdo, 226.
Antonio Rolleri de Peluffo, 225.
Apeles Mestres, 224.
Ardon, 222.
Baby Faurax, 222.
Bedford Crimson, 215.
Billy Boy, 215.
Bishop Darlington, 219.
Breeze Hill, 219.
Capt. Robinson, 219.
Caroline Esberg, 219.
Cecil, 215.
Charles P. Kilham, 215.
Chateau Pelles, 225.
Climbing Commandeur Jules Gravereaux, 222.
Climbing Constance, 219.
Climbing Los Angeles, 219.
Climbing Red Radiance, 219.
Climbing Rose Marie, 219.
Climbing Souvenir de H. A. Verschuren, 226.
Comtesse de Castilleja, 222.
Countess of Elgin, 215.
Cuba, 222.
Daphne, 215.
Diener's Blue, 220.
Director Rubio, 212.
Dolly Brownell, 220.
Dorina Neave, 215.
Double Orléans, 215.
Dr. Domingos Pereira, 224.
Dr. E. Deacon, 215.
Dr. J. G. Fraser, 215.
Duchess of Atholl, 215.
Ekta, 226.
Elizabeth of York, 215.
Ellen Terry, 215.
Ernestine Cosme, 222.
Ethel Chaplin, 215.
Eugene Transon, 211.
Eva Eakins, 215.
Fontanelle, 220.
Francie Simms, 216.
Frank Neave, 216.
Frank Reader, 226.
Gayety, 220.
Gela Gnau, 224.
Germaine, 222.
Glenn Dale, 220.
Golden Salmon, 216.
Grillodale, 220.
H. C. Valeton, 216.
Hilda Steinert, 224.
Hon. Charlotte Knollys, 216.
Irish Charity, 226.
Irish Charm, 226.
Irish Hope, 226.
Irish Morn, 226.
Irish Sweetness, 226.
Johanniszauber, 225.
J. Otto Thilow, 226.
Joyous Cavalier, 216.
Junior Van Fleet, 220.
Justino Henriques, 222.
Kitana, 227.
Koza, 227.
Laddie, 216.
Lady Helen Maglona, 216.
Lady Margaret Stewart, 216.
Lady Martha Bruce, 217.
Lady Sylvia, 217.
Lady Wakefield, 217.
Lady Worthington Evans, 217.
Li Bures, 212.
Lillian Gomez Mena, 212.
Locarno, 224.
Lone Star, 220.
Lucinda, 220.
Lucy Constable, 217.
Marguerite Amidieu du Clos, 225.
Marianna Rolfs, 225.
Mari Dot, 224.
Maud E. Gladstone, 217.
Mauricette Sistau, 223.
Maywood Red, 220.
Mia Snock, 224.
Minisa, 227.
Miss Annamarie Bally, 217.
Miss Talmadge, 200.
M. Julian Potin, 211.
Mlle. Stella Mallerin, 223.
Mme. Emile Van der Goes, 217.
Mme. Eugene Moreau, 223.
Mme. Gregoire Staechelin, 225.
Mme. Jules Walthery, 217.
Mme. Leon Guinotte, 217.
Mme. L. Hot, 223.
Mme. Orève, 223.
Monarch, 217.
Mrs. A. R. Barraclough, 217.
Mrs. Atlee, 217.
Mrs. Beatty, 217.
Mrs. Chas. Seppe, 210.
Mrs. E. M. Gilmer, 221.
Mrs. Fred Howard, 218.
Mrs. G. A. Wheatcroft, 218.
Mrs. Mina Lindell, 227.
Mrs. Tom Smith, 218.
Mrs. W. E. Nickerson, 226.
Mrs. William Fife, 218.
Muriel Pasquill, 221.
Myra, 221.
Nanette, 218.
Nancy Pretty, 221.
Naomi, 218.
Nénette Leydier, 223.
Ninie Vandevelde, 224.
Norman Lambert, 218.
Okaga, 227.
Orange Perfection, 224.
Pacific, 221.
Pacoima, 221.
Perfection, 221.
Petit Rene, 223.
Pierre Cormier, 223.
Pink Butterfly, 221.
Premier Supreme, 221.
Pride of Hurst, 218.
Primerose Sistau, 223.
Prince Henry, 218.
Prince Jean de Luxembourg, 223.
Princess Elizabeth of Greece, 218.
Princesse Yvonne Ghika, 225.
Queen Marie, 221.
Rapture, 221.
Reine Elizabeth, 224.
Roi Albert, 225.
Ronald Tooke, 218.
Rosa Rugosa, Siberian Form, 227.
Royal Scot, 218.
Rubis, 223.
Rufus D. Poly, 219.
Russell Supreme, 222.
Sarah Wright, 219.
Semi, 227.
Sioux Beauty, 227.
Sir David Davis, 219.
Solarium, 223.
Southern Beauty, 222.
Souvenir d'Alexandre Bernaix, 223.
Souvenir de Angele Opdebeek, 223.
Souvenir de Clermonde, 223.
Souvenir de Mme. Pidoux, 224.
Studienrat Schlenz, 225.
Tegala, 227.
Teton Beauty, 227.
Tetonkaha, 227.
Totty's Red, 222.
Villa Pia, 211.
White Forcer, 224.
Yanka, 228.
Yatkan, 228.
Yuhla, 228.
Zani, 228.
Zika, 228

GREAT BRITAIN AND IRELAND

Gold Medal Roses: Hon. Charlotte Knollys, Lady Helen Maglona, Lady Margaret Stewart, Lady Worthington Evans, Mrs. A. R. Barraclough, Mrs. Beatty, Mrs. Fred Howard, and Norman Lambert.

Bedford Crimson. HT. (Messrs. Laxton, 1926.) Well-formed, richly fragrant, crimson blooms. Holds its color well and is better formed than Etoile de Hollande.

Billy Boy. HT. (G. Beckwith & Son, 1926.) Flower semi-double, unfading deep sunflower-yellow. Foliage mildew-proof. Very free-flowering.

Cecil. HT. (B. R. Cant & Sons, 1926.) Flower single, golden yellow, borne in large clusters on long stems. Foliage mildew-proof. Growth branching, bushy; blooms early and late. First-class Certificate R. H. S.

Charles P. Kilham. HT. (G. Beckwith & Son, 1926.) Flower large, finely shaped, faintly tea-scented, brilliant orange Oriental red, suffused glowing scarlet, fading to brilliant Lincoln red in the old flowers. Foliage mildew-resistant. Few thorns. Growth vigorous, bushy, upright.

Countess of Elgin. HT. (Wm. Ferguson, 1925.) Sport of Mme. Edouard Herriot. Flower salmon-pink, with metallic sheen, reverse of petals deep rose-pink. Resembles the parent in every way.

Daphne. HT. (Dobbie & Co., 1925.) Flower well-formed, fairly double, moderate old rose fragrance, soft pink, flushed with rose. Growth of Hybrid Tea type; profuse bloomer.

**Dorina Neave.* HT. (J. H. Pemberton, 1926.) Flower large, full, pointed globular, very fragrant, silvery pink, borne upright on stiff stems. Growth compact.

Double Orléans. D. Poly. (E. J. Hicks, 1924.) A double form of the Orléans Rose, with all its good points.

**Dr. E. Deacon.* HT. (H. Morse & Sons, 1926.) Mme. Edouard Herriot × Gladys Holland. Type, Mme. Edouard Herriot. Bud very large, globular; flower very large and double, full, globular, very lasting, moderately fragrant, deep salmon-orange, fading to shrimp-pink, borne several together on medium-length stems; drop off cleanly. Foliage abundant, large, rich, glossy green, leathery, disease-resistant. Few thorns. Growth vigorous, upright, bushy; free, continuous bloomer in June, July, September, and October. Hardy. Certificate of Merit, Norwich, 1925.

Dr. J. G. Fraser. HT. (W. Easlea & Sons, 1926.) St. Helena × Muriel Dickson. Bud long, shapely; flower salmon-apricot, suffused vermilion-pink. Resembles Lyons and Los Angeles but half-open flower of better form than either. Growth vigorous.

**Duchess of Atholl.* HT. (Dobbie & Co., 1928.) Type, Emma Wright. Bud large, globular, deep bronze; flower large, double, cupped, very lasting, strong fragrance, vivid orange, flushed old-rose, borne singly on long stem; hang on. Foliage normal, large, bronzy green, leathery, disease-resistant. Growth vigorous, upright; profuse, continuous bloomer from July to October. Hardy. Award of Merit, N. R. S.

**Elizabeth of York.* HT. (Dobbie & Co., 1928.) Type, Betty Uprichard. Bud large, long-pointed, cerise; flower medium size, semi-double, high-centered, very lasting, strong fragrance, cerise-pink, borne singly on long stem; hang on. Foliage normal, medium size, dark glossy green, disease-resistant. Few thorns. Growth moderate, upright; profuse, continuous bloomer from July to September. Hardy.

Ellen Terry. HT. (Chaplin Bros., 1925.) Flower well shaped, high pointed, sweetly fragrant, soft sulphury cream, shaded egg-yolk yellow toward the center, outer petals shaded soft peach, borne on long, stiff stem. Foliage dark glossy green. Growth vigorous, upright; free flowering. Certificate of Merit, N. R. S., 1924.

Ethel Chaplin. HT. (Chaplin Bros., 1926.) Flower large, high-centered, moderately fragrant, soft lemon-yellow. Growth vigorous, upright. Foliage dark glossy green. Certificate of Merit, N. R. S., 1924.

**Eva Eakins.* HT. (S. McGredy & Son, 1926.) Type, Ophelia, only smaller. Bud small, long-pointed; flower small, double, high-centered, very lasting, slightly fragrant, intense scarlet-carmine, flushed orange, running to bright yellow at base, outside heavily flushed yellow, deepen-

*Descriptions from Society's standard card, as filled out by originator.

ing to bright yellow at base, unfading, borne on medium-length stem; drop off cleanly. Foliage normal in amount and color, leathery, medium size. Few thorns. Growth moderate, bushy profuse, continuous bloomer. Hardy. Certificate of Merit, N. R. S., 1924.

**Francie Simms.* HT. (Alex. Dickson & Sons, 1926.) Type, Queen Mary, but better grower and of brighter color. Bud large, long-pointed; flower large, double, full, high-centered, lasting, moderately fragrant, rose-Neyron-red, crayoned with pure bright carmine, base buttercup-yellow, borne singly on medium-length, normal stem; drop off cleanly. Foliage abundant, medium size, normal green, leathery, disease-resistant. Growth vigorous, upright, bushy; abundant, continuous bloomer from June to October. Hardy.

**Frank Neave.* HT. (H. Morse & Sons, 1928.) Type, Florence L. Izzard. Bud large, long-pointed, mustard-yellow; flower medium to large, double, full, high-centered, very lasting, moderately fragrant, pale mustard-yellow, borne singly on long stem; drop off cleanly. Foliage normal, large, light green, leathery, disease-resistant. Few thorns. Growth moderate; free, continuous bloomer.

Golden Salmon. D.Poly. (W. Cutbush & Son, 1926.) Type, Orange King. Bud opens well in all weathers; flower large, pure orange (does not burn), borne in huge trusses. Foliage mildew-proof. Growth is vigorous, strong, bushy. Award of Merit, Chelsea Show, London 1926; Gold Medal, Rose Show, The Hague, Holland, 1926.

H. C. Valeton. HT. (H. A. Verschuren & Sons. 1926.) Golden Ophelia × Aspirant Marcel Rouyer. Bud long-pointed; flower large, golden yellow, appearing as if varnished with rosy wax, deliciously fragrant, borne on strong stem.

**Hon. Charlotte Knollys.* HT. (Bees Ltd., 1926.) Antoine Rivoire × Willowmere. Type, La France. Bud very large, globular; flower very large and double, high-centered, globular, very lasting, slightly fragrant, clear rose, with strikingly luminous effect almost carmine in the shadows, and becoming paler at the edges of petals, center creamy yellow, borne singly on long stem; drop off cleanly. Foliage normal, large, dark green, leathery, glossy, disease-resistant. Growth vigorous, upright; blooms abundantly from June to November. Gold Medal, N. R. S., 1926.

**Joyous Cavalier.* HT. (W. E. B. Archer, 1926.) Red-Letter Day × Clarice Goodacre. Type, Red-Letter Day in form, only double. Bud large, long-pointed, crimson; flower large, double (25 to 30 petals), full, open, lasting, slightly fragrant, brilliant scarlet, that does not blue, borne about three together on long stem; drop off cleanly. Foliage abundant, medium size, dark bronzy green, glossy, disease-resistant. Many thorns. Growth very vigorous (4½ feet), upright, bushy; abundant, continuous bloomer from June to November. Hardy.

Laddie. HT. (G. Beckwith & Son, 1926.) Type, Betty Uprichard, but deeper in color and more full. Flower deep cochineal-carmine, flushed orange and scarlet, with orange base, fading to rosy carmine, borne on stiff stem. Growth bushy; very free-flowering.

**Lady Helen Maglona.* HT. (A. Dickson & Sons, 1926.) Bud very large, long-pointed; flower very large and double, full, high-centered, lasting, very fragrant, bright crimson-red with blackish markings, fading to scarlet-red, deeper toward center, does not blue, borne singly on medium-length, strong stem; drop off cleanly. Foliage normal, medium size, long-pointed, much serrated, spinach-green, leathery, disease-resistant. Few thorns. Growth vigorous, upright, bushy; free, continuous bloomer from June to October. Hardy. Gold Medal N. R. S., England; Clay Cup, for fragrance, R. H. S., England, 1925; Award of Merit, R. A. S., England.

**Lady Margaret Stewart.* HT. (A. Dickson & Sons, 1926.) Type, Duchess of Wellington. Bud very large, long-pointed, orange, shaded yellow, with cerise markings; bloom very large, double to very double, full, high-centered, very lasting, extremely fragrant, color deep buttercup-yellow, flushed orange and red, fading to cadmium-orange, borne singly on long, strong stem; drop off cleanly. Foliage abundant, large, sage green, leathery, glossy, disease-resistant. Few thorns. Growth vigorous, upright, bushy; abundant, continuous bloomer from

June to October. Hardy. Gold Medal, N. R. S., England; Award of Merit, R. A. S., England.

Lady Martha Bruce. HT. (Wm. Ferguson, 1925.) Flower very distinct shade of pink, with tinge of peach-blossom-pink on outer petals, carried on long, erect stem, very lasting. Foliage almost mildew-proof. Growth very vigorous and branching; profuse bloomer.

Lady Sylvia. HT. (Walter Stevens, 1926.) Sport of Mme. Butterfly and like it in stem-growth, foliage, and the superb build of its buds and blooms. Flower deep Chatenay pink, suffused with apricot.

Lady Wakefield. HT. (B. R. Cant & Sons, 1926.) Flower bright apricot, tea-scented. Foliage beautiful, very rarely mildews. Growth vigorous, upright; free bloomer.

**Lady Worthington Evans.* HT. (A. Dickson & Sons, 1926.) Type, Hawlmark Crimson. Bud medium size, long-pointed; flower medium size, semi-double, high-centered, lasting, moderately fragrant, deep crimson, with blackish sheen, borne singly and several together on medium length, strong stem; drop off cleanly. Foliage abundant, medium size, bronzy green, leathery. Few thorns. Growth vigorous, upright, bushy; abundant, continuous bloomer from June to October. Hardy. Gold Medal, N. R. S., England; Award of Merit, R. H. S., England.

Lucy Constable. HT. (George Lilley, 1924.) Bud long-pointed; flower moderately fragrant, silver-pink, reverse of petals deep salmon-pink. Foliage dark bronzy green. Good habit of growth; very free bloomer.

**Maud E. Gladstone.* D.Poly. (Bees Ltd., 1926.) Orléans Rose × King Edward VII. Bud small, long-pointed; flower small, double, globular, very lasting, strong fragrance, Malmaison pink, shaded with coral and suffused with chrome-yellow, borne several together on long stem; drop off cleanly. Foliage abundant, medium size, normal green, leathery, glossy, disease-resistant. Growth vigorous, upright, bushy; profuse, continuous bloomer from June to November. Award of Merit, N. R. S., 1926.

Miss Annamarie Bally. HT. (W. Easlea & Sons, 1926.) Flower reddish copper, outer petals suffused whitish fawn—a darker fuller Lamia. Foliage dark green. Few thorns. Vigorous grower.

Mme. Emile Van der Goes. HT. (H. A. Verschuren & Sons, 1925.) Columbia × Irish Fireflame. Buds very beautiful; flower brilliant pink and coral-red on orange-yellow, borne on long, strong stem. Growth vigorous.

Mme. Jules Walthery. HT. (A. J. & C. Allen, 1924.) Flower cupped, finely formed, cadmium- to primrose-yellow, passing to white on outer petals. Foliage mildew-resistant. Growth vigorous; very free-flowering.

Mme. Leon Guinotte. HT. (H. A. Verschuren & Sons, 1925.) Mme. Edouard Herriot × Old Gold. Bud long-pointed; flower perfectly formed, glistening pink shaded yellow, very lasting, borne on strong stem. Blooms very freely the entire season. Growth vigorous.

**Monarch.* HT. (Dobbie & Co., 1926.) Type, Mrs. Charles Lamplough Bud very large, long-pointed, deep pink; flower very large and double, high-centered, very lasting, moderately fragrant, silvery pink, borne, singly on long stem; hang on. Foliage normal, large, dark green, leathery. Few thorns. Vigorous grower; abundant, continuous bloomer from July to October. Hardy.

**Mrs. A. R. Barraclough.* HT. (S. McGredy & Son, 1926.) Bud very large, long-pointed; flower very large, double, high-centered, very lasting, slightly fragrant, bright, soft, sparkling carmine-pink of even shade throughout, shading to yellow at base becoming brighter with age, borne on long, strong stem; drop off cleanly. Foliage abundant, dark green, disease-resistant. Few thorns. Growth very vigorous, upright; profuse, continuous bloomer. Hardy. Gold Medal, N. R. S., 1924; Certificate of Merit, Royal Lancashire Agricultural Society.

Mrs. Atlee. HT. (Chaplin Bros., 1926.) Flower silvery salmon. Good grower and floriferous.

Mrs. Beatty. HT. (B. R. Cant & Sons, 1926.) Flower of perfect shape, Marechal Niel yellow, delightfully fragrant. Growth vigorous; continuous bloomer from early summer till winter frosts. Foliage free from mildew. Gold Metal, N. R. S.; Certificate of Merit, R. H. S.

**Mrs. Fred Howard.* HT. (Dobbie & Co., 1926.) Type, Mme. Butterfly. Bud large, long-pointed, deep orange; flower medium size, double, high-centered, very lasting, strong fragrance, vivid orange-apricot, paling to straw-yellow at edges of petals, borne singly on long stem; hang on. Foliage normal, large, bronzy green, leathery, disease-resistant. Growth vigorous, upright, bushy; profuse, continuous bloomer from July to October. Hardy. Gold Medal, Scottish National Rose Society, Glasgow, 1926.

**Mrs. G. A. Wheatcroft.* HT. (Wheatcroft Bros., 1926.) Sport of Lady Pirrie. Bud medium size, long-pointed; flower medium size, double (30 to 40 petals), cupped, high-centered, lasting, very fragrant, gold at base shading through coppery pink to silver rose at tips of petals, reverse soft salmon-pink to carmine, with orange base and a suffusion of copper all over the petals, borne several together on long, strong stem; hang on. Foliage abundant, large, bronzy green, leathery, disease-resistant. Few or no thorns. Growth vigorous (3 to 4 feet), bushy, dwarf; profuse, continuous bloomer. Certificate of Merit, N. R. S., 1926.

Mrs. Tom Smith. HT. (T. Smith & Sons, 1924.) Bud opens very well; flower distinct glowing cerise, perfectly shaped, fragrant. Foliage dark bronzy green, mildew-proof. Growth vigorous, erect; free-flowering.

**Mrs. William Fife.* HT. (Dobbie & Co., 1926.) Type, Lady Ashtown. Bud large, long-pointed, deep pink; flower large, double, high-centered, very lasting, moderately fragrant, soft rose-pink, flushed blush-pink, borne singly on medium-length stem; hang on. Foliage normal, medium size, light green, glossy, disease-resistant. Growth moderate, bushy; profuse, continuous bloomer from July to October. Hardy.

**Nanette.* HW. (E. J. Hicks, 1926.) Type, Tausendschön. Bud medium size; flower large, double, full, open, very lasting, strong fragrance, creamy white, borne in clusters on normal stem. Foliage normal, glossy green. Growth very vigorous; abundant bloomer in July. Hardy. Certificate of Merit, N. R. S., 1926.

**Naomi.* HT. (J. H. Pemberton, 1926.) Flower full, pointed, globular, fragrant, distinct coppery buff, borne erect on long stem. Foliage dark green. Growth vigorous; very free-flowering from early summer to late autumn.

**Norman Lambert.* HT. (S. McGredy & Son, 1926.) Bud large, long-pointed; flower large, double, high-centered, very lasting, slightly fragrant, deep salmon-orange, suffused bronze and yellow, fading to yellow at the base, reverse deep buttercup-yellow, borne on long strong stem; drop off cleanly. Foliage abundant, large, normal green, leathery, glossy, disease-resistant. Few thorns. Growth very vigorous, upright, bushy; profuse, continuous bloomer. Hardy. Gold Medal, N. R. S., 1924.

**Pride of Hurst.* D.Poly. (E. J. Hicks, 1926.) Sport of Coral Cluster. Flower small, very double, full, very lasting, coral-pink, borne in clusters on normal stem. Foliage normal, medium size, normal green, glossy. Growth vigorous, dwarf; abundant, continuous bloomer from July to October. Hardy. Certificate of Merit, N. R. S., 1926.

Prince Henry. HT. (W. Easlea & Sons, 1926.) Bud is long-pointed, madder-pink; flower large, vermilion-pink, passing to blush-pink, borne in enormous clusters of 18 to 20 on strong stem. Foliage beautiful. Growth upright; very free and continuous bloomer.

Princess Elizabeth of Greece. HT. (Chaplin Bros., 1926.) Flower orange-yellow, overlaid orange-lake.

**Ronald Tooke.* HT. (H. Morse & Sons, 1927.) Sport of Col. Oswald Fitzgerald. Bud large, long-pointed; flower very large, double full, open, cupped, very lasting, slight fragrance, deep blackish crimson, borne singly on medium-length stem; drop off cleanly. Foliage normal; medium size, normal green, leathery, disease-resistant. Growth moderate; abundant, continuous bloomer in June, July, and September. Hardy.

**Royal Scot.* HT. (Dobbie & Co., 1928.) Type, Sunstar. Bud large, ovoid, yellow and crimson; flower medium size, semi-double, open, very lasting, moderate fragrance, golden yellow, with crimson-edged petals, borne several together on long stem; hang on. Foliage normal, medium size, dark green, disease-resistant.

Growth vigorous, upright; profuse, continuous bloomer from July to November. Hardy.

Rufus. D.Poly. (A. J. & C. Allen, 1925.) Flower double, intense even scarlet, which does not burn in the fiercest sun, borne in bold trusses. Growth compact; free-flowering.

**Sarah Wright.* HT. (H. Morse & Sons, 1927.) Ophelia × Emma Wright. Type, Ophelia. Bud medium size, long-pointed; flower medium size, double to semi-double, full, open, cupped, very lasting, slight fragrance, rose-pink, borne in clusters on long stem; drop off cleanly. Foliage abundant, large, dark green, leathery, disease-resistant. Growth very vigorous; profuse bloomer. Hardy.

**Sir David Davis.* HT. (S. McGredy & Son, 1926.) Type, Ophelia, but larger. Bud large, long-pointed; flower large, double, high-centered, very lasting, very fragrant, unfading deep glowing crimson of an even shade throughout, running to light yellow at base, borne singly and several together on long stem; drop off cleanly. Foliage abundant, large, dark green, leathery, disease-resistant. Few thorns. Growth vigorous, upright; profuse, continuous bloomer. Hardy. Certificate of Merit, N. R. S.

UNITED STATES AND CANADA

**Bishop Darlington.* HC. (Capt. Thomas, 1926; to be intro. by Henry Dreer and Howard & Smith.) Aviateur Blériot × Moonlight. Type, Mrs. George C. Thomas, but larger bud and flower. Bud medium size, ovoid, orange-red; flower large, semi-double, open, cupped, lasting, moderate fruity fragrance, cream to flesh-pink, with yellow glow through center, reverse light pink with broad light canary-yellow base, borne singly and several together on medium to long stem; hang on. Foliage abundant, medium size, light bronzy green, soft, disease-resistant. Growth vigorous (8 feet), climbing; profuse, continuous bloomer (200 in Pa. from May to November). Hardy in Pa., 1917–19.

**Breeze Hill.* HW. (Dr. W. Van Fleet; intro. by American Rose Society, 1926.) *Rosa Wichuraiana* × Beauté de Lyon. Bud large, ovoid, slightly darker than flower; flower very large (3 inch diam.) double (50 to 60 petals), full, cupped, lasting, moderately fragrant, flesh tinted with apricot, center rose, paling with age, borne singly and in clusters up to 7 on medium-length stem; drop off cleanly. Foliage normal, medium size, normal green, leathery, blackspots when poorly grown. Many thorns. Growth moderate, upright, bushy; abundant bloomer for three weeks in June, and again in September in wet seasons. Tips freeze.

**Capt. Robinson.* A wild rose discovered in the sand-dunes of Porter County, Indiana, in June, 1924, by C. H. Robinson. Bud medium size, long-pointed; flower large, single (13 petals), open, lasting, fragrant, dark pink, borne singly on medium-length, weak stem; drop off cleanly. Foliage small, dark green, disease-resistant. Few thorns. Growth poor (1 foot), upright; sparse bloomer for three weeks in June. Hardy.

Caroline Esberg. Cl. (Richard Diener, 1926.) Flower double, ashes of roses, borne in clusters in spring.

**Climbing Constance.* Cl.HT. (Pacific Rose Co., 1927.) Sport of Constance. Bud very large, long-pointed; flower very large, double, full, very lasting, strong fragrance, deep unfading yellow, borne singly on long stem; drop off cleanly. Foliage normal, large, normal green, glossy, mildews. Growth very vigorous, climbing, abundant, continuous bloomer from May to November. Hardy.

Climbing Los Angeles. Cl.HT. (Howard & Smith, 1925.) Sport of Los Angeles. Flowers larger than in parent, of more intense color. Very vigorous grower; continuous bloomer throughout season.

**Climbing Red Radiance.* Cl.HT. (Pacific Rose Co., 1927.) Sport of Red Radiance. Bud very large, long-pointed; flower very large, full, double, very lasting, moderately fragrant, red, borne on long stem; drop off cleanly. Foliage abundant, large, dark green, glossy, disease-resistant. Growth very vigorous, climbing, profuse, continuous bloomer from May to November. Hardy.

**Climbing Rose Marie.* Cl.HT. (Pacific Rose Co., 1927.) Sport of Rose

Marie. Bud very large, long-pointed; flower very large and double, full, very lasting, strong fragrance, deep pink (deeper than parent), borne on long (3-foot) stem; drop off cleanly. Foliage abundant, large, dark green, glossy, disease-resistant. Growth very vigorous, climbing; profuse, continuous bloomer from May to November. Hardy.

Diener's Blue. Cl. (Richard Diener, 1926.) Flower very double, about 2 inches in diameter, napthalene-violet, borne in large, heavy clusters. Almost thornless. Growth heavy, vigorous.

**Dolly Brownell.* HW. (W. D. Brownell, 1926.) Seedling of Dr. W. Van Fleet. Type, dwarf Dr. W. Van Fleet, branching, compact. Bud, long-pointed to ovoid, like Dr. W. Van Fleet, flower averages 3 inches across, double to very double (about 52 petals), full, very lasting, strong fragrance, color like Dr. W. Van Fleet, borne singly and several together on long to medium strong stem; drop off cleanly. Foliage abundant, medium size, dark green, glossy, disease-resistant. Growth moderate to vigorous (third year, 30 inches on own root), bushy, dwarf, continuous bloomer to frost. Hardy.

**Fontanelle.* HT. (E. G. Hill Co., 1927.) Souvenir de Claudius Pernet × Columbia. Bud very large, long-pointed; flower very large, double, full, very lasting, moderately fragrant, lemon-yellow, deepening to gold at center, borne singly on long stem. Foliage large, normal green, leathery, disease-resistant. Growth vigorous, upright; free-flowering.

**Gayety.* HT. (E. G. Hill Co., 1926.) Mme. Butterfly × Souvenir de Claudius Pernet. Bud large, long-pointed; flower large, semi-double, cupped, very lasting, orange, Indian red and silver, borne on long stem. Foliage abundant light glossy green, disease-resistant. Very few thorns. Growth very vigorous (4 feet and more) upright, branching; abundant, continuous bloomer.

**Glenn Dale.* HW. (Dr. W. Van Fleet; to be intro. by American Rose Society, 1927.) Believed to be *Rosa Wichuraiana* × Isabella Sprunt. Type Pax. Bud large, long-pointed; flower large (30 to 50 petals), semi-double, open, slightly fragrant, lemon, fading to white, borne singly and in clusters (up to 20) on long, strong stem. Foliage abundant, medium size, dark green, leathery, disease-resistant. Growth vigorous (10 feet), climbing; profuse bloomer in June. Hardy.

**Grillodale.* HT. (N. Grillo, 1926.) Sport of Mme. Butterfly. Type, Ophelia Supreme. Bud large, long-pointed; flower large, double, full, very fragrant, blush, with pink center, borne on long, strong stem. Foliage abundant, large, normal green, glossy. Few thorns. Growth very vigorous, bushy; abundant, continuous bloomer. Hardy.

**Junior Van Fleet.* HW. (J. A. Kemp, 1923.) Dr. W. Van Fleet × Frau Karl Druschki. Type, Dr. W. Van Fleet but dwarf. Bud large, ovoid, dark pink; flower large (3½ to 4 inches diameter), double (60 to 70 petals), full, open, very lasting, moderate spicy fragrance, flesh-pink, borne several together on strong stem; drop off cleanly. Foliage abundant, large to medium, dark bronzy green, leathery, glossy, disease-resistant. Many thorns. Growth vigorous (3½ feet at four years), bushy, prostrate, compact; profuse bloomer. Hardy.

**Lone Star.* HT. (Miss Helen Buller; intro. by Meta Hillje, 1925.) Seedling of Etoile de France. Type, Mrs. Aaron Ward in bud. Bud large long-pointed; flower large, semi-double, open, lasting, moderately fragrant, cardinal-red with dark velvety sheen, borne singly on long, normal stem; hang on. Foliage normal, medium size, normal green, soft, disease-resistant. Few thorns. Growth vigorous, upright; free, continuous bloomer. Hardy.

**Lucinda.* HT. (Joseph Heacock Co., 1927.) Sport of Columbia. Bud very large, globular; flower very large and double, globular, slightly fragrant, dark pink without variation, borne singly on long, strong stem; hang on. Foliage normal, medium size, normal green, leathery. Few thorns. Growth very vigorous, upright; abundant, continuous bloomer. Silver Medal, A. R. S., Philadelphia Flower Show, 1926.

**Maywood Red.* HT. (E. G. Hill Co., 1923.) Premier seedling. Type, Victor. Bud and flower large, lasting, fragrant, medium shade of red.

**Miss Talmadge.* HT. (Pacific Rose Co., 1927.) Sport of Constance. Bud

large, long-pointed; flower very large and double, full, very lasting, strong fragrance, deep yellow, does not show center when open, borne singly on good stem; hang on. Foliage abundant large, light green, glossy, mildews. Growth very vigorous, bushy; abundant, continuous bloomer from May to November. Hardy.

Mrs. E. M. Gilmer (changed from Dorothy Dix). HT. (John Cook, 1926.) Cook's Seedling No. 590 × Crusader. Bud ovoid; flower large, double (60 petals), slightly fragrant, red. Foliage large. Growth vigorous, compact, very free flowering and hardy.

**Muriel Pasquill.* HT. (Thomas Pasquill, North Vancouver, B. C., 1927.) Sport of Padre. Bud large, long-pointed; flower large, semi-double and single, open, lasting, strong fragrance, strawberry pink, reverse golden yellow, borne several together on long, strong stem. Foliage abundant, large, dark green, leathery, disease-resistant. Few thorns. Growth very vigorous (4 feet), rather open habit, upright, bushy; abundant continuous bloomer from June to October. Freezes to 6 inches.

**Myra.* HW. (Rena E. Wilber, 1926.) Dr. W. Van Fleet × Lady Roberts. Type, Mary Wallace in growth; Mrs. Wemyss Quin in foliage. Bud very large, ovoid, outside petals bronzy red; flower very large and double, globular, very lasting, slight Tea fragrance, creamy white, borne two or three buds on long, strong stem; hang on. Foliage abundant, medium size, dark bronzy green, leathery, glossy, disease-resistant. Many thorns. Growth vigorous (5 to 9 feet in one season), upright, abundant bloomer in June. Hardy. Second Prize in the Seedling Class of the 1925 Seattle Rose Show.

**Nancy Pretty.* HW. (Alexander MacLellan, 1917.) Dorothy Perkins × Ellen Poulsen. Type, *Rosa Wichuraiana.* Bud small; flower small, double, full, lasting, pink, reverse lighter, borne in clusters; hang on. Foliage abundant, dark green, disease-resistant. Growth moderate (10 to 12 feet), trailing; profuse bloomer from July 8 to August 10. Hardy. Certificate Newport (R. I.) Horticultural Society, 1919, also First Class Certificate, 1926.

**Pacific.* HT. (Pacific Rose Co., 1927.) Sport of Los Angeles. Type, Georg Arends in color. Bud very large, ovoid; flower very large, semi-double, full, very lasting, strong fragrance, soft pink, borne singly on long stem; drop off cleanly. Foliage normal, large, normal green, glossy. Growth vigorous, bushy, abundant, continuous bloomer May to November. Hardy.

**Pacoima.* HT. (Pacific Rose Co., 1927.) Sport of William F. Dreer. Bud very large, long-pointed, yellow; flower very large, double, open, very lasting, strong fragrance, flesh color with yellow, borne singly on medium-length stem; drop off cleanly. Foliage abundant, medium size, light green, wrinkled, disease-resistant. Many thorns. Growth very vigorous, bushy, abundant, continuous bloomer from May to November. Hardy.

**Perfection.* HT. (Stielaw Bros., 1925.) Sport of Columbia. Type, My Maryland. Bud large, globular; flower large, very double, cupped, very lasting, moderately fragrant, pink like Columbia, borne singly on medium-length stem; hang on. Foliage abundant, small, light to normal green. Few thorns. Growth vigorous; free, continuous bloomer. Certificate of Merit, Minnesota State Florists Association, 1924.

**Pink Butterfly.* HT. (A. C. Brown, 1926.) Sport of Mme. Butterfly. Bud long-pointed; flower large, double, very lasting, fragrance like Mme. Butterfly, bright cerise, light buff at base. Foliage abundant, dark green. Vigorous grower; free bloomer.

**Premier Supreme.* HT. (Zieger & Sons, 1927.) Sport of Premier. Bud very large, long-pointed; flower very large and double, high-centered, very lasting, moderate fragrance, deep rose-pink, almost scarlet, borne singly on long stem; hang on. Foliage abundant, large, dark green, leathery, disease-resistant. Few thorns. Growth very vigorous, upright, bushy; profuse, continuous bloomer.

**Queen Marie.* HT. (F. A. Chervenka, 1925.) Mme. Butterfly × Lamia. Type, Mme. Abel Chatenay. Bud large; flower large, double, high-centered, very lasting, moderate fragrance, rose-pink, reverse deeper pink, base yellow, bronze cast, borne singly on long stem; drop off cleanly. Foliage normal, medium size, dark green,

leathery. Few thorns. Growth vigorous (3 to 4 feet), upright, compact; free, continuous bloomer. Hardy.

**Rapture.* HT. (Traendly & Schenck 1926.) Sport of Mme. Butterfly. Flower medium size, somewhat deeper pink than Mme. Butterfly, borne singly on long stem. Like parent in habit of growth but stronger.

**Russell Supreme.* HT. (Pacific Rose Co., 1927.) Sport of Mrs. Charles E. Russell. Bud very large, long-ovoid; flower very large and double, full, very lasting, strong fragrance, light pink, borne singly on long stem; hang on. Foliage normal, medium size, dark green, soft, disease-resistant. Growth vigorous, bushy; abundant, continuous bloomer from May to November. Hardy.

**Southern Beauty.* HT. (Harry L. Rowe, 1926.) Sport of Columbia. Bud very large, long-pointed; flower very large, double, full, very lasting, moderate fragrance, center deep rose-pink, passing to light pink at edges, borne singly on long, strong stem; hang on. Foliage normal, large, dark bluish green, leathery, disease-resistant. Few thorns. Growth very vigorous; free bloomer.

Totty's Red. HT. (Chas. H. Totty Co., 1926.) Sport of Premier. Bud long-pointed; flower very lasting, very fragrant, crimson-scarlet. Like parent in all respects except color, which it retains at all times.

FRANCE

Gold Medal Roses: Alice Stern, Souvenir d'Alexandre Bernaix.

Alice Stern. HT. (P. Gillot, 1926.) Bud long-pointed, perfectly formed; flower very large, opens well, very fragrant, white, tinted cream at center, sometimes salmon-yellow, borne on long, strong stem. Foliage normal, dark bronzy green, disease-resistant. Few thorns. Growth very vigorous, upright, bushy; abundant bloomer. Gold Medal, Saverne, 1925; Certificate of Merit, Société d'Horticulture du Doubs.

Ardon. HW. (E. Turbat & Co., 1925.) Flower large, very full, bright Neyron rose, veined and stained with white, very lasting, borne in pyramidal panicles of 30 to 40. Foliage disease-resistant. Almost thornless. Very vigorous and hardy.

Baby Faurax. D.Poly. (Leonard Lille, 1924.) Bud small; flower small, double, sweet fragrance, violet-blue, borne in large clusters. Growth dwarf (12 to 15 inches).

Climbing Commandeur Jules Gravereaux. Cl.HP. (J. Jacquet Belouet; intro. by Grandes Roseraies, 1925.) Sport of Commandeur Jules Gravereaux. Very vigorous climber with all the good characteristics of its parent.

Comtesse de Castilleja. HT. (M. Chambard. 1926.) Mme. Edouard Herriot × Juliet × unnamed seedling. Bud long-pointed, orange-flame, with narrow edge of intense vermilion; flower cupped, very fragrant, aurora-coral, borne on strong stem. Foliage dark green, mildew-resistant. Growth very vigorous, upright; profuse bloomer.

Cuba. HT. (Pernet-Ducher, 1926.) Bud ovoid; flower large, semi-double, globular, very fragrant, cardinal-red, slightly tinted yellow, borne on strong stem. Foliage dark bronzy green. Few thorns. Growth very vigorous, upright.

Ernestine Cosme. HW. (E. Turbat & Co., 1926.) Flower large for the class, single, very lasting, fire-red, with large white eye, borne in large, pyramidal clusters of 75 to 100. Foliage abundant, light green, glossy, disease-resistant. Many thorns. Growth very vigorous. Very hardy.

Eugene Transon. HT. See page 211.

Germaine. HT. (C. Chambard, 1926.) Sunburst × unnamed seedling. Bud very long-pointed; flower very large, creamy white with salmon center, borne on rigid stem. Foliage beautiful. Few thorns. Growth vigorous; very free-flowering.

**Justino Henriques.* HT. (P. Guillot, 1926.) Sport of Louise Catherine Breslau. Bud large, ovoid, egg-yolk-yellow, shaded ochre-yellow; flower very large and double, globular, lasting, very fragrant. Neopolitan yellow, tinted orange, reverse golden straw-yellow, carmine stamens, borne singly on long, strong stem; drop off cleanly. Foliage abundant, large, bronze-green, glossy, disease-resistant. Growth very vigorous, upright; abundant, continuous bloomer. Hardy.

Lillian Gomez Mena. HT. See page 212.

Mauricette Sistau. D.Poly. (E. Turbat & Co., 1925.) Bud large, rosy white; flower large, full, cupped, pure white passing to rosy white, borne in clusters of 20 to 50. Foliage very disease-resistant. Thornless. Growth very vigorous.

M. Julien Potin. HT. See page 211.

Mlle. Stella Mallerin. HT. (C. Chambard, 1925.) Bud large, long-pointed, eau-de-nil white, opens well; flower very large, double, full, cupped, moderately fragrant, white, slightly shaded cream in center, borne singly on long, strong stem. Foliage large, dark green. Nearly thornless. Growth very vigorous, free, upright branching.

Mme. Eugène Moreau. HT. (C. Richardier, 1925.) Flower large, full, antimony-yellow, with light mixture of cadmium and Naples yellow at base. Growth vigorous; free-flowering.

Mme. L. Hot. HT. (M. Bernaix, 1926.) Gorgeous × Rosomane Narcisse Thomas. Bud long-pointed, pomegranate-red and coppery red, cadmium-yellow at base; flower large, double, full, globular, reddish salmon, heavily shaded salmon-rose and chrome-yellow, borne on long, strong stem. Foliage brilliant light green. Growth vigorous, upright, bushy.

Mme. Orève. HT. (M. Chambard, 1926.) Bud long, coppery rose; flower very large, moderate tea fragrance, rose-salmon, center coppery salmon, borne on strong stem. Foliage dark bronzy green. Growth vigorous, bushy; profuse bloomer.

Mme.Chas.Seppe. HT. See page 210.

Nénette Leydier. D.Poly. (C. Richardier, 1924.) Flower madder and Turkey red, lighter tint at base of petals. Abundant bloomer.

**Petit René.* HW. (A. Nonin & Son, 1925.) Type, Excelsa. Bud small, globular; flower small, very double, full, very lasting, very fragrant, brilliant red, borne in clusters on short stem; hang on. Foliage abundant, glossy. Growth very vigorous (6 to 16 feet); profuse bloomer for four weeks in June and July. Hardy.

Pierre Cormier. D.Poly. (E. Turbat & Co., 1926.) Bud ovoid, scarlet-red; bloom large, full, double, cupped, very lasting, brilliant scarlet-red, lighter in center, borne in clusters of 10 to 20. Foliage medium size, brilliant dark green. Growth vigorous, dwarf.

Primerose Sistau. D.Poly. (E. Turbat & Co., 1925.) Bud medium size, ovoid; flower medium size, cupped, very lasting, cochineal-carmine, shaded yellow when open, borne in clusters of 5 to 6. Foliage normal, dark green and bronzy, glossy, very disease-resistant. Few thorns. Growth vigorous, half dwarf.

**Prince Jean de Luxembourg.* D. Poly. (Soupert & Notting, 1926.) Jeanny Soupert × Miniature. Type, Orléans Rose. Bud small, globular; flower very small, very double, full, very lasting, pure white, borne in clusters of 100 to 150 on short stem; hang on. Foliage normal, small, normal green. Growth moderate, dwarf; profuse, continuous bloomer from May to November. Hardy.

**Rubis.* D.Poly. (A. Nonin & Fils, 1926.) Merveille des Rouges × Jessie. Type, Orléans Rose. Bud small, ovoid; flower medium size, semi-double, open, very lasting, bright ruby-red, center white, borne in clusters on normal stem; drop off cleanly. Foliage normal, medium size, normal green, glossy, disease-resistant. Growth very vigorous, dwarf; profuse, continuous bloomer from May to November. Hardy.

Solarium. HW. (E. Turbat & Co., 1925.) Type, Hiawatha, but larger and better color. Flower very large, single, very lasting, velvety vermilion-red, stamens yellow, borne in clusters of 30. Foliage normal, rich glossy green. Growth very vigorous.

Souvenir d'Alexandre Bernaix. HT. (P. Bernaix, 1926.) Etoile de Hollande × Gen. MacArthur. Bud deep crimson-red on maroon ground; flower very large, full, double, cupped, globular, crimson-vermilion-red, heavily shaded with velvety purple, splashed with fiery red, borne on long, strong stem. Foliage purplish green. Growth vigorous, upright. Gold Medal, Exposition de Roses de Saverne.

Souvenir de Angéle Opdebeek. HT. (H. A. Verschuren & Sons, 1926.) Bud long-pointed, perfectly formed, orange-yellow, streaked carmine-red; flower large, full, double, moderately fragrant, canary-yellow.

Souvenir de Clermonde. HT. (Pernet-Ducher, 1925.) Bud ovoid; flower large, semi-double, globular, moder-

ately fragrant, salmon-rose, darker center, shaded yellow, borne on strong stem. Foliage large, glossy, bronze-green. Few thorns. Growth very vigorous, upright; abundant bloomer. Hardy.

Souvenir de Mme. Pidoux. HT. (M. Chambard, 1926.) Mrs. Aaron Ward × unnamed seedling. Bud long-pointed, Indian yellow; flower cupped, chrome-yellow, reverse daybreak pink, borne on long, strong stem. Foliage light green. Growth vigorous, upright; abundant, continuous bloomer.

THE NETHERLANDS

Gold Medal Roses: Golden Salmon (see page 216); Ninie Vandevelde.

**Agnes Roggen.* HT. (M. Leenders & Co., 1926.) Type, Radiance. Bud large, ovoid; flower large, double, full, lasting, moderately fragrant, lilac-white, reverse carmine, borne several together on medium-length stem. Foliage abundant, large, dark glossy green. Growth very vigorous, bushy; abundant, continuous bloomer.

**Gela Gnau.* HT. (M. Leenders & Co., 1926.) Type, Los Angeles. Bud large, ovoid; flower large, double, full, lasting, moderately fragrant, amber-yellow, reverse apricot, borne several together on medium-length stem. Foliage normal, soft. Growth vigorous, bushy; abundant, continuous bloomer.

**Hilda Steinert.* HT. (M. Leenders & Co., 1926.) Type, Mme. Edouard Herriot. Bud large, ovoid; flower large, semi-double, lasting, moderately fragrant, coral-red, reverse reddish salmon and old-gold, borne several together on medium-length stem. Foliage abundant, medium size, bronzy, leathery. Growth very vigorous; abundant, continuous bloomer.

**Locarno.* D.Poly. (G. de Ruyter, 1926.) Type, Orléans Rose. Flower large, opens well, orange-red, borne in huge trusses. Foliage almost mildew-proof. Growth vigorous, bushy. Silver Gilt Medal, The Hague, 1926.

**Mia Snock.* HT. (M. Leenders & Co., 1925.) Mrs. T. Hillas × Mrs. Wemyss Quin. Bud large; flower very large, very double, globular, lemon-yellow, borne several together on normal stem. Foliage abundant, medium size, dark green, leathery. Growth vigorous, bushy; free-flowering.

Ninie Vandevelde. D.Poly. (F. Vandevelde, 1924.) Flower salmon. Foliage bronzy green. Growth vigorous; very free-flowering. Very hardy. Gold Medal, International Exhibition, Antwerp, 1924.

**Orange Perfection.* D.Poly. (Jan Spek, 1927.) Sport of Ideal. Type, Orléans Rose, with same good habit and easy growth. Flower orange-red.

Reine Elizabeth. HT. (A. Op de Beeck, 1926.) Type, Mme. Edouard Herriot, in color, but more brilliant Bud long-pointed; flower medium size, full, double, well-formed, deliciously fragrant, coral-red, changing to prawn-red, tinted with yellow, borne on rigid stem. Foliage disease-resistant. Growth vigorous, free-branching; continuous bloomer.

Villa Pia. HT. See page 211.

White Forcer. D.Poly. (Jan Spek, 1926.) Sport of Jessie, with larger flowers and trusses. Flower pure white, very lasting. Foliage light green.

SPAIN

Gold Medal Rose: Mari Dot.

**Apeles Mestres.* Cl.HT. (P. Dot, 1925.) Frau Karl Druschki × Souvenir de Claudius Pernet. Bud large; flower very large, very double, full, globular, very lasting, moderately fragrant, of apricot-sunflower-yellow, borne singly on long stem; hang on. Foliage abundant, medium size, dark green, glossy, disease-resistant. Growth very vigorous, climbing; abundant bloomer in May and June.

Director Rubio. HT. See page 212.

Dr. Domingos Pereira. Cl.T. (P de Magalhaes, 1925.) Flower large, full, double, well-formed, lasting, opens well, sweetly fragrant, tender lilac-rose, slightly shaded yellow at center. Growth very vigorous, climbing; profuse bloomer.

Li Bures. HT. See page 212.

Mari Dot. HT. (P. Dot, 1927.) (O'Junyent × Jean C. N. Forestier.) Bud ovoid, reddish cadmium-yellow; flower opens well, moderately fragrant,

salmon-yellow passing to rose-pink, base golden yellow, borne in clusters of 3 to 5 on long, strong stem. Foliage large, bright green, glossy. Growth very vigorous, healthy. Gold Medal, Saverne, 1925.

Mme. Grégoire Staechelin. Cl.H.T. (P. Dot, 1927.) (Frau Karl Druschki × Chateau de Clos Vougeot.) Bud long-pointed; flower very large, moderately fragrant, delicate pink, with curled petals, pear-shaped fruit, borne on long, strong stem. Foliage dark green, disease-resistant. Growth vigorous (13- to 14-foot stems in a season); abundant bloomer.

GERMANY

**Johanniszauber.* HT. (M. Tantau, 1926.) Chateau de Clos Vougeot × unnamed seedling. Bud medium size, long-pointed, opens well; flower medium size, very double, full, very lasting, dark velvety blood-red, holding well and not fading or burning, borne on long, strong stem. Foliage disease-resistant. Growth vigorous, upright.

Marianna Rolfs. Cl.HT. (L. Walter, 1926.) Type, Frau Karl Druschki. Bud long-pointed; flower slightly full, silvery pink.

**Studienrat Schlenz.* HT. (Peter Lambert, 1926.) Type, Climbing Mme. Caroline Testout. Bud very large, long-pointed; flower very large, double, cupped, lasting, moderately fragrant, rose-pink, reverse pink, borne singly and several together on long, strong stem; drop off cleanly. Foliage normal, large, dark green, glossy, disease-resistant. Growth very vigorous (6½ to 8 feet), trailing, bushy; blooms for six weeks in June and July. Hardy.

ROUMANIA

Chateau Pelles. HT. (Arpad Mühle, 1926.) Stadtrat Glaser × unnamed seedling. Bud large, ovoid; flower large, very double, full, globular, lasting, light silky rose and salmon; drop off cleanly. Foliage abundant, medium size, dark bronzy green. Growth vigorous, bushy; abundant, continuous bloomer.

Princesse Yvonne Ghika. HT. (Arpad Mühle, 1926.) Seedling of Harry Kirk. Type, Souvenir de la Malmaison. Bud large, long-pointed; flower cupped, moderately fragrant alabaster-white with orange center. Foliage normal, medium size, dark green, leathery. Growth vigorous, bushy; profuse, continuous bloomer.

LUXEMBOURG

**Antonio Rolleri de Peluffo.* HT. (Soupert & Notting, 1926.) General MacArthur × Mme. Edouard Herriot. Type, General MacArthur. Bud large, ovoid; flower very large and double, full, lasting, very fragrant, brilliant red, darker at center, borne singly on long, strong stem; drop off cleanly. Foliage normal, large, normal green, leathery. Many thorns. Vigorous, bushy, dwarf; abundant, continuous bloomer. Very hardy.

Marguerite Amidieu du Clos. HT. (Ketten Bros., 1926.) Souv. de Claudius Pernet × Golden Emblem. Bud long-ovoid, pure buttercup-yellow, light crimson-carmine stripes on outer petals, opens well; flower large, double, full, very lasting, moderately fragrant, buttercup-yellow, very distinct, absolutely unfading, borne singly on long, strong stem. Foliage reddish green, glossy. Growth vigorous, bushy; profuse, continuous bloomer.

BELGIUM

Gold Medal Rose: Roi Albert.

Roi Albert. HT. (J. Klettenberg-Londes, 1925.) Laurent Carle × Mme. Abel Chatenay. Bud large, long-pointed, opens well, deep carmine-rose, with vermilion reflex, edges silvery pink; flower very large, double, and full, high-centered, very lasting, strong fragrance, bright carmine-rose, shaded aurora edged carmine, center tinted cadmium or vermilion, reverse deep carmine-rose, borne singly on very long, strong stem. Foliage handsome, disease-resistant. Growth vigorous, erect, branching; free, perpetual bloomer. Three Certificates of Merit; Gold Medal, Brussels, 1924.

The following new Roses were discovered too late for inclusion in the preceding list, but will be fully described in the 1928 Annual.

Climbing Souvenir de H. A. Verschuren. Cl.HT. (Howard & Smith, 1927.) Apricot-yellow and saffron.

Frank Reader. HT. (H. A. Verschuren & Sons; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Golden apricot at center, shading to lighter at edges.

Irish Charity. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Intense fiery scarlet, with golden sheen opening rosy scarlet.

Irish Charm. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Rich golden apricot at base, passing to delicate blush-pink.

Irish Hope. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Rich rosy crimson, with maroon shadings.

Irish Morn. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Imperial pink, deepening coral at center, with golden luster.

Irish Sweetness. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Crimson-lake, suffused with scarlet, similar to Laurent Carle.

J. Otto Thilow. HT. (H. A. Verschuren & Sons; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Rose-pink, deeper than Rose Marie.

Mrs. W. E. Nickerson. HT. (S. McGredy & Son; intro. in U. S. by Howard & Smith and Henry A. Dreer, 1927.) Chrome-yellow at center passing to rich warm rosy salmon; reverse rich orange-cadmium at base, passing to salmon.

At the time of going to press, the Editor learned of a group of new roses originated by Prof. N. E. Hansen, of State College, Brookings, South Dakota. From Professor Hansen's statement in the January news letter of the South Dakota State Horticultural Society, the following information and descriptions of these roses are quoted:

During many years I have labored with the roses of North America, Europe, and Asia, hoping to originate double, fragrant roses that will be hardy without winter protection and will bloom all summer. Of the thousands of seedlings, only two have been named so far, Tetonkaha, introduced in 1912, which is very popular at the Far North, and Tegala, introduced in 1926. The difficulty of propagation and the rush of other work have prevented an earlier introduction of the new roses offered herewith for the first time.

In this list the usual custom is followed of naming the pistillate or seed parent first and the staminate or pollen parent second. The names are mostly taken from the language of the Sioux Indians of South Dakota. The "a" is usually sounded as in "arm."

These rose plants are sent out, postpaid, only as free premiums, one plant with one annual membership in the South Dakota State Horticultural Society. To experiment stations and others where the membership is not available other arrangements may be made.*

Amdo. Tetonkaha × La Melusine. A heavy bloomer through July and into August. The pink flowers appear 7 to 10 in a cluster and have about 16 petals and 8 petaloids.

Ekta. Rosa gallica grandiflora × American Beauty. Of tall, upright habit; very hardy and vigorous. Flowers, single, pink; blooming freely throughout June and a few days in

*Or at least, so the Editor hopes.

July. Since the flowers are single, this plant may not be a hybrid. However, the flowers are pink, while the flowers of the *R. gallica* parent are dark crimson. Also, it blooms earlier than *R. gallica*. This plant sprouts freely. May be useful for screens, hedges, or as an ornamental shrub.

Kitana. Tetonkaha × Rose Apples. A vigorous, hardy, semi-double pink rose, blooming very freely in June and into July. Flowers 3 inches in diameter, intensely fragrant; about 36 petals and 25 petaloids. Red fruit sets freely. Flowers are somewhat globular with little pollen; deep lavender pink.

Koza. Seed parent, our seedling of *Rosa rugosa*, Siberian form × La France; pollen parent, La Melusine, a Rugosa hybrid. Vigorous plant, over 7 feet in height; a profuse bloomer through July and into August. Flowers semi-double; deep pink.

Minisa. Rosa rugosa, Siberian form × Prince Camille de Rohan, a well-known Hybrid Perpetual and one of the darkest red of all roses. Minisa is not very double, having only about 17 petals and petaloids. Deep crimson with rich fragrance. A free bloomer.

Mrs. Mina Lindell. A beautiful, dwarf, semi-double, light pink, wild rose found by Mrs. Mina Lindell in Butte County, South Dakota. Mrs. Lindell, under date of March 4, 1924, wrote: "These roses grow on the west side of a hill, and I have noticed that there was a clump of single roses and then a clump of double ones near them. The roses grow about a mile from the Butte called Castle Rock in Butte County." This rose is named in her memory by the surviving family. To find a double wild rose on the prairies of South Dakota is indeed noteworthy. The plant sprouts freely so it will not be necessary to bud, graft, or grow from cuttings.

Okaga. Rosa gallica grandiflora × Tetonkaha. A very fine semi-double, deep pink rose. Low bush; blooms freely in June and first half of July.

Rosa Rugosa, Siberian Form. Introduced spring 1907. Our own introduction. Flowers large, single, dark crimson. Tall growing, hardy.

Semi. A tall-growing, upright shrub, fully 8 feet in height, with hooked prickles in pairs. Flowers small, white, blooming all summer, followed by bright red fruits. This is *Rosa laxa*, Rotz., grown from seed collected by Prof. N. E. Hansen in 1913 on the dry steppes of Semipalatinsk, Siberia. The plant may prove useful as a budding stock for other roses or for hedges and screens. An occasional bush has light pink flowers. This interesting wild rose has been described under many synonyms. The present name is given it to distinguish it from other importations. Native of the Altai Mountains, central Siberia, and extending westward to the Semipalatinsk region. It should not be confused with *R. laxa*, Lindl., which is a variety of *R. blanda*, Ait. The name, Semi, is an abbreviation of Semipalatinsk.

Sioux Beauty. Tetonkaha × American Beauty. A real triumph in rose-breeding. Delightful fragrance; plant hardy; very profuse, late bloomer; blooms through July and into August. Flowers bright rose, deepening into fine dark crimson in the center petals, very double, with nearly or quite 100 petals and petaloids. Only six plants available.

Tegala. Tetonkaha × *Rosa gallica grandiflora.* The name, Tegala, is made up from these two names. The accent is on the second syllable. Offered for the first time spring, 1926. This attractive deep pink rose blossoms very freely in June, and is semi-double, much like Tetonkaha but more dwarf in habit. The plants offered are all sprouts from one original plant. Growth up to about 4 feet in height without pruning.

Teton Beauty. Tetonkaha × American Beauty. A sister variety to Sioux Beauty. Flowers bright crimson, somewhat cup-shaped. Resembles American Beauty. A heavy bloomer; blooms all season through July and August, with 65 or more petals and petaloids. Delightful fragrance; rich pink to crimson; Rugosa foliage.

Tetonkaha. Introduced spring 1912. Seed parent, wild prairie rose from Lake Tetonkaha, about 18 miles northwest of Brookings, S. Dak.; pollen parent, a hybrid *Rosa rugosa*, so it is a combination of at least three species. Flowers, fully 3 inches across, 18 to 25 petals, deep rich pink, very fragrant. The bush is perfectly hardy far north into Manitoba and is a very free bloomer. This is now becoming

widely popular. The bush is of vigorous growth, attaining a height of fully 6 feet and 6 feet across, with hundreds of flowers. A pleasing sight in bloom. The glossy Rugosa (wrinkled) foliage is attractive also. We have no small plants to offer for spring, but Tetonkaha is mentioned as the first successful result of the rose-breeding experiments at this Station.

Yanka. Tetonkaha × La Melusine, a Rugosa hybrid. Plant 3 to 4 feet; flowers semi-double, pink, blooming in clusters freely through July and into August.

Yatkan. Somewhat uncertain, but very likely Gruss an Teplitz × La Melusine. Flowers semi-double, 2½ inches across, pure pink. Blooms through July.

Yuhla. Wild rose from Lake Oakwood (S. Dak.) × General Jacqueminot. Flowers semi-double, crimson; blooms through July and August. Leaves of Rugosa type. About 20 petals and 26 petaloids.

Zani. Seed parent, *Rosa rugosa,* Siberian form × Anna de Diesbach; pollen parent, Tetonkaha. Of this pedigree we have a number of hardy, strong-growing seedlings, 6 to 8 feet in height, blooming very freely from June until the middle of July. Flowers semi-double; color, a fine dark crimson, with a white streak through the center petals.

Zika. Seed parent, *Rosa rugosa,* Siberian form × Anna de Diesbach; pollen parent Tetonkaha. Flowers semi-double, fine shell-pink, fragrant.

Roses Registered in 1926-1927

Unless otherwise noted, the description of these roses will be found in the preceding article, "New Roses of the World," in the section devoted to the United States.

**Bishop Darlington,* HW., by Capt. George C. Thomas, Beverly Hills, Calif.

Breeze Hill, HW., by American Rose Society, August 17, 1926.

Briarcliff, HT., by Briarcliff Greenhouses, Inc., August 17, 1926. Described in the 1926 Rose Annual, page 184.

**Captain Robinson,* a wild rose discovered in the sand-dunes of Porter County, Indiana, June, 1924.

**Climbing Constance,* HT., by Pacific Rose Co., Los Angeles, Calif.

**Climbing Red Radiance,* HT., by Pacific Rose Co., Los Angeles, Calif.

**Climbing Rose Marie,* HT., by Pacific Rose Co., Los Angeles, Calif.

**Dolly Brownell,* HT., by Walter D. Brownell, Providence, R. I.

**Fontanelle,* HT., by E. G. Hill Co., Richmond, Ind.

**Glenn Dale,* HW., by American Rose Society.

Grillodale, HT., by Nicholas Grillo, Milldale, Conn., October 8, 1926.

Junior Van Fleet, HW., by J. A. Kemp, Little Silver, N. J., October 8, 1926.

Lone Star, HT. (originated by Miss Helen Buller), by Meta Hillje, Alvin, Texas, June 7, 1926.

Lucinda, HT., by Joseph Heacock Co., Wyncote, Pa., June 7, 1926.

**Miss Talmadge,* HT., by Pacific Rose Co., Los Angeles, Calif.

Mrs. E. M. Gilmer, HT., by John Cook, Baltimore, Md., January 12, 1927.

Muriel Pasquill, HT., by Thomas Pasquill Rose Nurseries, North Vancouver, B. C., November 19, 1926.

Myra, HW., by Miss Rena E. Wilber, Seattle, Wash., June 7, 1926.

Nancy Pretty, HW., by Alexander MacLellan, Newport, R. I., November 19, 1926.

**Pacific,* HT., by Pacific Rose Co., Los Angeles, Calif.

**Pacoima,* HT., by Pacific Rose Co., Los Angeles, Calif.

Pink Butterfly, HT., by A. C. Brown, Springfield, Ills., August 17, 1926.

Premier Supreme, HT., by Wilbur E. Zieger, Willow Grove, Pa., January 12, 1927.

**Queen Marie,* HT., by Frank A. Chervenka, Sumner, Wash.

Rapture, HT., by Traendly & Schenck, New York, N. Y., November 19, 1926.

**Russell Supreme,* HT., by Pacific Rose Co., Los Angeles, Calif.

Southern Beauty, HT., by Harry L. Rowe, Richmond, Va., June 7, 1926.

Totty's Red, HT., by Charles H. Totty Co., Madison, N. J., October 14, 1926.

*In process of registration

Rose Notes

From THE EDITOR'S CORRESPONDENCE

Importation of Rose-Stocks and Roses.—As is well known, the quarantine regulations of the Department of Agriculture embodied in Quarantine 37 of the Federal Horticultural Board allow the importation of finished rose plants on special permits for propagation or for trial under especial scrutiny, while there is no restriction on the bringing in of rose understocks.

During the fiscal year ended June 30, 1926, some 28,556 finished rose plants came in under special permit. The inclusive total of such importations since the beginning of the quarantine in 1919 is 110,997.

Of rose-stocks there came during the fiscal year a total of 10,884,920. This was 2,545,396 more than for the previous year, or more than 30 per cent of an increase in foreign-grown stocks for roses.

Of this large total, England supplied 3,994,900, France 1,816,250, and Holland 4,805,470. The largest quantities came to New York as 3,220,636, to New Jersey, 1,110,509, and to Ohio 1,370,025.

A Veteran Rose Hybridist.—Plate VIII, facing page 56, presents the features of Alexander Montgomery, of Hadley, Mass., as he looked to the Editor and his photographic friend, Prof. Frank A. Waugh, of Massachusetts Agricultural College, one November day. For a long lifetime Mr. Montgomery has been doing things with roses in his great establishment at Hadley. He is responsible for Mrs. Charles Russell, which was for a long time the leading dependence of the cut-flower men. Hadley is recognized the world over as a dependable red rose, both indoors and outdoors, and Boston, Commonwealth, Crimson Queen, Crusader, Dark Pink Russell, Pilgrim, Priscilla, Templar, and Wellesley are also results of his discriminating genius. The visitor to Hadley finds him busily at work toward improving the greenhouse rose, with that sixth sense of the hybridist essential to any real advance.

Meetings of the National Rose Society.—The spring show will be held at Westminster, on April 22; the summer show in London on July 1 and 2; the provincial show at Cheltenham on July 6 and 7. The special show of new seedlings, at which the Daily Mail Cup will again be competed for, will be held at Westminster on July 15; and the autumn show at Westminster on September 9 and 10. It has been decided to hold a Rose Conference in London in July, 1928, but the details are not known at this writing.

The Editor strongly urges such of the members of the American Rose Society who are in England at the time of any of these shows to visit them and make notes; and as soon as practicable write him about what was seen there. We want to keep as closely in touch as possible with the new English roses, because they eventually find their way into our gardens, and advance information is valuable.

Why Plant Roses Deeply?—I want to endorse all said by Mr. Hume in last year's Annual about the fallacy of deep planting, at least as far as this section is concerned.

Last fall I had occasion to put in a dozen new plants, fine specimens, too and very carefully instructed my old negro gardener along the established rules of setting them 3 to 4 inches below the junction of bud. He either forgot what I told him, or maybe followed his intuition, and had set four before I went to see how he was getting on, putting them in at the exact depth they had been growing. I promptly "corrected" him, having him to set the other eight 3 to 4 inches below the bud, and he overdid the thing by letting them be a little lower than the surrounding ground, whereby the rain carried in more dirt around them, which I thought was also all right.

When the time came for results, six of the eight planted as directed by me died, and the other two have done practically nothing. It was disclosed that there had been absolutely no development of the old root system, that the section above where they originally stood had blackened and decayed, with no reaction of growth anywhere, seemingly a smothering effect. On the other hand, the four plants set by my gardener, according to his own devices thrived amazingly, with the result that he has since had the laugh on me.—R. H. Warren, Albany, Ga.

A Screen for Shading Roses.—Mr. William H. Scott, of Abilene, Kans., writes: "I have been experimenting with shades for protecting young plants and midsummer bloom from our scalding sun. I take two 4-foot laths and two 32-inch laths, securely nailed in the form of a rectangle with two projecting legs about 4 inches long. The rectangular surface is covered with common burlap which is thin enough to allow one-third to one-half of the sunshine to filter through, and this is plenty. The frame is shoved slantwise into the ground for about 2 inches, leaving an opening at the bottom for air-circulation, and it is supported at the top by a slanting lath tilted from the other side of the rose-bed. My roses are planted in rows running east and west, so that by placing these screens on the south side, they are protected from the midday sun, while getting all the morning and late afternoon light they need. I tried shades made of lath, which allowed one-half the sunlight or more to filter through, but I believe the roses like the burlap best. . . ."

Roses on the Railroad.—At Stockton, Calif., "Dad" Gray takes care of the Southern Pacific Railroad lawns at common laborer's wages. On a day last summer when the thermometer stood at 110° in the shade, he wrote: "Out of my own pay, I am doing a bit to improve the roses here. My pet piece is an oval 20 by 24 feet on the front lawn. It is covered with a ring of Frau Karl Druschkis now. Inside, I want yellow. I have Souvenir de Claudius Pernet, Marêchal Niel, Lady Hillingdon, Golden Emblem, Aladdin, Juliet, and Cheerful. At the ends I dream of raising a pair of Belle of Portugals on two poles until the tops bend in a mighty 50-foot embrace and make the handle of a giant basket. If luck is with me, some day Jessie will weave an edge of red for my basket; or if I can shake some more money out of my pocket to buy Jessie by the dozen. But then, the rose-grower dreams his dreams of the future. Annuals may come and annuals may go; shrubs are shrubs; but the rose is the ultimate beauty of the garden."

INDEX

Armstrong, Dwight L., article by, 29.
Artificial Fertilization of Roses, 63.
As the Retail Florist Sees Roses, 183.
Australia, Rose Progress in, 153.

Bagatelle, report from, 210.
Barrow, John, article by, 89.
Beginner in Roses, Conversation with, 192.
Beginner's Experiences, 29, 31.
Belgium, new roses of, 225.
Blackburn, Kathleen B., article by, 54.
Boylston, Dr. Joseph, article by, 80.
Bredero, W. L., article by, 75.
Breeze Hill Rose, color plate, Frontispiece; described, 213.
Brown Canker, color plate, facing 161; of the Rose, 161; plates describing, facing 172, 173, 176, 177, 180, 181.
Bud Selection, importance of, 75.
Buffalo Backyard Rose-Garden, 111.
Buisman, R., letter from, 208.
Buying Roses from Agents, 42.

California Rose-Gardens, 21.
California Rose-Gardens and Rosarians, Plate V, facing 21.
Campbell, R. R., article by, 83.
Central New York Roses, 99.
China, Roses in, 150.
Chromosomes and Rose Problems, 54.
Color Standardization, 119.
Connecticut, Roses in, 89.
Considering New Varieties, 121.
Cross, Whitman, article by, 116.
Cummings, Alexander, Jr., article by, 93.
Currey, Jesse A., article by, 15.
Cut-Rose articles, 183, 187.
Cut-Roses in New York, 187.

Darlington Foundation, 27.
Deep Planting, comment on, 230.
Disease of Rose, brown canker, 161.
Dot, Pedro, article by, 71.
Dupeyrat, J., letter from, 210.

East and West Beginnings, 32.
Elliot, Dr. George T., article by, 78.
England, new roses of, 215; roses in, 206.

Fall Planting Preferred, 45.
Favored Roses of America, 196.
France, new roses of, 222.
Fraser, Allan C., 69.

Gentleman Discusses Blondes, 147.
Germany, new roses of, 225.
Germinating Rose Seeds, 69.
Glassford, J. G., letter from, 207.
Glenn Dale rose described, 213.
Great Britain and Ireland, new roses of, 215.
Green Mountain Roses, 81.

Hancock, Prof. M. L., article by, 150.
Hansen, N. E., new roses of, 226.
Hatton, R. Marion, article by, 90.
Hays, James A., article by, 200.
Hazlewood, H. H., article by, 153.
Higley, Edna V., article by, 81.
Holland, new roses of, 224; rose discussion from, 208.
Hybridizing by Women, 73; Roses, Symposium on, 53; in Spain, 71.

Importation of Rose Stocks and Roses, 229.
Interesting Boys and Girls, in Roses, 27.
Ithaca, Home Rose-garden in, 106.

Jenkins, Anna E., article by, 161.
Junior Van Fleet, Plate VII, facing 41.

Kemp, J. A., and his new rose, Plate VII, facing 41.
Kordes, W. J. H., letter from, 201.

Lambert roses, 116.
Land of Enchantment, 21.
Lewis, Dr. G. G., article by, 99.
Lewis, Mrs. T. H., article by, 97.
Lines, R. H. A., letter from, 206.
Long Island rose culture, 97.
Luxembourg, new roses of, 225.

Mahneke, J. F., article by, 32.
Maine, Roses in, 78.
Massachusetts rose-growing, 86.
Mendelian Principles, 59.
Middleton, G. F., article by, 125.
Mills, Dr. E. M., article by, 21.
Montgomery, Alexander, portrait of, Plate VIII, facing 56; work of, 229
Morrison, B. Y., article by, 9.
Moss Roses, Favorite, 15.

National Rose Society, Meetings of, 229.
New England, Roses in, 78; Seaboard, Roses along, 89.
New European Roses discussed, 201.
New Hampshire Roses, 80.
New Roses, Discussion of, 127; of the World, 214.
New Van Fleet Hybrid Roses, 213.

New York and Ontario Roses, Symposium, 97.
Nicolas, J. H., article by, 59.
Northeast Corner, a Rose Symposium, 77.

Old Roses, portraits of, Plates II and III, facing 12 and 13.
Ontario, Rose Varieties in, 112.
Own-Root Roses Again, 35; Plate VI, facing 40.

Parents and Offspring, 66.
Parker, Mrs. A. H., article by, 86.
Pasadena, Gardens in, 22.
Patience for the New Roses, 125.
Pemberton roses, 116.
Pernet-Ducher, J., article by, 63.
Peterson, George H., article by, 45.
Planting and Feeding Roses, 98.
Poor Start Makes Poor Roses, 75.
Prideaux, G., article by, 157.
Proof of the Pudding, 127.
Pyle, Robert, article by, 196.

Queen Marie, rose named for, Plate IX, facing 57.

Railroad, Roses on, 230.
Referendum on Roses, 196.
Registration of Roses in 1926–27, 228.
Rhode Island Roses, 90.
Rochester, New York, Roses in, 103.
Rosa odorata referred to, 150.
Rose-Breeding Experiences, 66; Symposium on, 53.
Rose Heresies in Connecticut, 93.
Rose Notes, 229.
Roses at a Naval Base, 157.
Roumania, new roses of, 225.

San José, Rose-Gardens in, 23.
Sanders, Paul B., article by, 112.
Schierenberg, A., article by, 98.
Schling, Max, article by, 183.
School, Rose, in Texas, 194.
Screen for Shading Roses, 230.
Seeds and Seedlings, 69.
Seel, Paul and Elsie, article by, 103.
Senni, Countess, letter from, 205.
Seymour, E. L. D., article by, 187.
Sites, C. P., letters from, 194.
Smith, E. Percy, letter from, 208.
Southern Climates, Roses for, 18.
Souvenir de Georges Pernet, color plate, facing 136.
Spain, new roses of, 224.
Stevens, G. A., article by, 35.
Stock Trials at Arlington, 47.
Syracuse, New York, Roses in, 99.

Tacoma, Royal Doings in, 200.
Tea Roses for Southern Climates, 18.
Thomas, Capt. George C., Jr., articles by, 18, 66, 121; portrait of, Plate IV, facing 20.
Thomas, Pemberton, and Lambert Roses, 116.
Tillotson, H S., article by, 119.
Traendly, F. H., interview with, 187.
Traveling Agents, Buying Roses from, 42.

Understocks for Roses at Arlington, 47.
United States and Canada, new roses of, 219.

Vermont, Roses in, 83.
Veteran Rose Hybridist, 229.

White, Prof. E. A., article by, 106.
Whitney, G. G., article by, 147.
Why Do You Like Roses? 9.
Why We Stopped Selling Roses in Spring, 45.
Wilber, Rena E., article by, 73.
Witte, Oscar S., article by, 111.

Yellow Roses discussed, 147.
Yerkes, Guy E., article by, 47.

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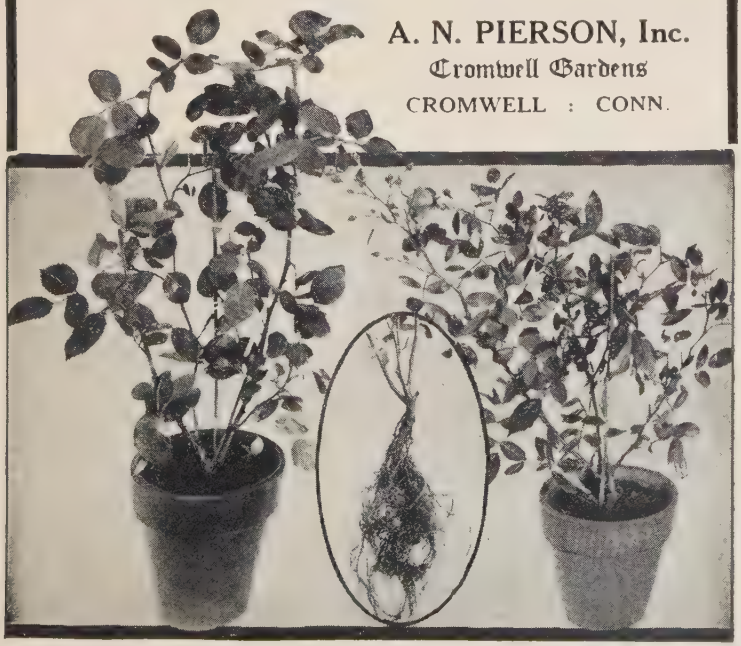

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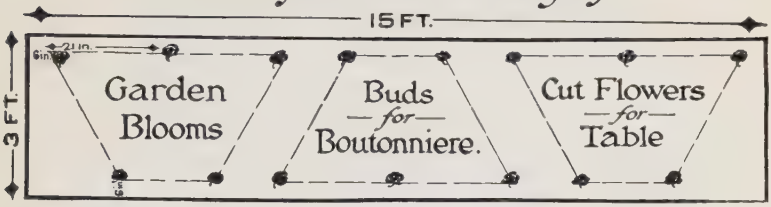

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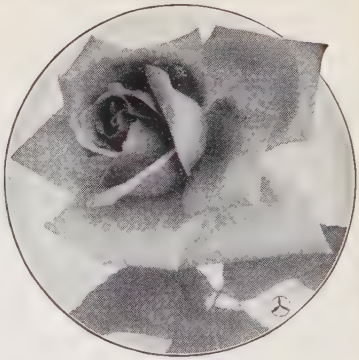
Mrs. Prentiss Nichols. Deep pink ..... Page 91
Templar. Deep garnet-red .. Page 95



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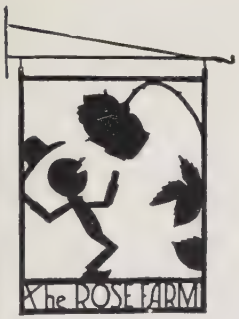

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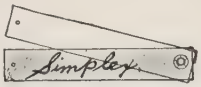

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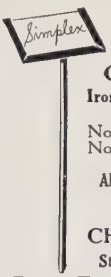

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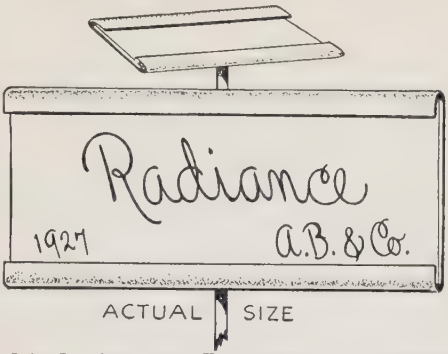

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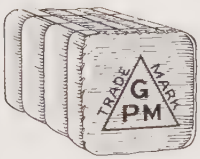

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